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ABSTRACT

A study examined the distribution, use, and effects of 30 research and development products to improve vocational education for handicapped learners. These research and development efforts were studied through a mail survey returned from 321 respondents, telephone interviews with 100 respondents, and case studies of seven sites where these products had been used in an exemplary manner. Across the sites, 284 personal interviews were conducted. Overall, the study indicated that state and national research has had positive effects on vocational education programs for handicapped learners. The primary uses of the publications studied were in workshops or college classrooms, as professional references, in secondary classrooms, and for teacher inservices. Among the effects of these research products on vocational education were the following: increased participation of handicapped students in vocational education, more relevant individualized education programs (IEP's), improved curricula for handicapped learners, and strengthened linkages between vocational and special education. In addition, the research products were reported to have helped handicapped learners by increasing their participation in work experiences while in school, by expanding their awareness of career possibilities, and by improving their self-esteem and employability skills. (MN)

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THE IMPACT OF SELECTED RESEARCH AND DEVELOPMENT PROJECTS ON VOCATIONAL EDUCATION FOR HANDICAPPED LEARNERS

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FOREWORD

The Education for All Handicapped Children Act of 1975 (P.L. 94-142) and the Vocational Education Act Amendments of 1976 (P.L. 94-482) set the stage for improved vocational education for handicapped learners. Key provisions of this legislation such as placing learners in the "least restrictive environment" and developing Individualized Education Programs (IEPs) have expanded the options for persons with handicapping conditions. The implementation of these provisions in vocational education settings has been enhanced by research-based innovations.

The National Center for Research in Vocational Education and Research Coordinating Units (RCUs) in the state have invested approximately 10 percent of the program improvement projects funded in Vocational Education since 1978 to meet the needs of special learners including the handicapped. The focus of this report is on some of these exemplary research-based innovations. The purpose of the report was to assess the distribution, use, and impact of the selected products on handicapped learners. Records from the National Center Clearinghouse, the Dissemination and Utilization Program, and other National Center projects were used to identify locations in which these products had been used in an exemplary manner. We appreciated the assistance of the following persons who made data collection at these sites possible: Catherine Batsche, Project Director, Handicapped and Disadvantaged Network: Coordination and Diffusion Project, Illinois State University; Hal Birkland, Manager, Special Needs Program, Vocational Division, Minnesota State Department of Education; Ruth C. Brown, Specialist in Special Programs, Division of Vocational and Technical Education, Maryland State Department of Education; Cleo Johnson, Consultant in Special Education, School of Education, Central Michigan University; Alice Kudlata, Director of Exceptional Education and Support Services, Milwaukee Public Schools; Meredith McCleary, Curriculum Supervisor, Vocational Education for the Disadvantaged, Handicapped, Vocational- Technical, and Adult Education, the School Board of Broward County, Florida; and Jerald A. Moore, Director of Exceptional Children, Charlotte-Mechlenburg Schools, Charlotte, North Carolina.

We are grateful to many other people, too numerous to mention, who made this assessment comprehensive and intensive. In particular, we wish to thank the teachers and others interviewed for their willingness to share thoughtful perceptions.

We are indebted to the reviewers, Catherine Batsche, Illinois State University; Adrian Bank, Center for Study of Evaluation; and Denie Denniston, Jim Weber, Lorella McKinney, and Lucy Thrane of the National Center for Research in Vocational Education for comments that helped to improve this report. Finally, we wish to thank the authors, Debra Bragg, William Hull, and Kay Adams, for collecting, analyzing and reporting information on the impact of these research and development products. This report contains useful information for the continuation and improvement of vocational education programs for handicapped learners.

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in Vocational Education

EXECUTIVE SUMMARY

This study describes the distribution, use, and effects of thirty research and development (R&D) products to improve vocational education for handicapped learners. Fifteen of these products were developed by the National Center for Research in Vocational Education, eleven products were developed outside of the National Center but distributed by the Dissemination and Utilization project and four products were developed through state research coordinating units. Also, seven workshops on vocational education for handicapped learners were studied. Topics of the R&D efforts included individualized education programs; least restrictive environment; job placement and adjustment; guidance and counseling; career and vocational development; policy development; attitudinal barriers; career-related instruction; employability skills; and daily living skills.

These R&D efforts were studied through (1) a mail survey returned from 321 respondents, (2) telephone interviews with 100 respondents, and (3) case studies of seven sites where these products had been used in an exemplary manner. Across the sites 284 personal interviews were conducted. The major questions addressed through the study were as follows:

1. How many individuals have benefited from R&D products related to vocational education for handicapped learners?
2. How were R&D products used to improve the quality of vocational education for handicapped learners?
3. What have been the effects on vocational education programs for handicapped learners from R&D products?
4. What has been the progress toward meeting critical goals for handicapped learners within vocational education?

From January 1978 to July 1981, 33,320 copies of the twenty-six publications about handicapped learners from the National Center for Research in Vocational Education were distributed. Based on the 3 percent sample of the population of users, estimated secondary uses of these publications have involved an additional 85,635 college or university students, 123,717 secondary teachers, 19,932 administrators, and 3,300 university personnel during this period.

During this same period, 4 state developed publications selected from a pool of 268 publications on handicapped learners were distributed to 1,600 individuals. Based on the sample of users, estimated secondary uses of these 4 publications have involved 10,886 students, 4,226 teachers, 1,744 administrators, and 2,368 other personnel.

The primary uses of the publications from the National Center were reported to be (1) in a workshop or college classroom (45 percent), (2) as a professional reference (36 percent), and (3) in a library or resource file (17 percent). Some examples of specific uses of National Center publications follow:

- A vocational special needs coordinator in Charlotte, North Carolina used 10 different publications to implement a series of sixteen workshops for 54 vocational teachers in the spring of 1981. The workshops covered topics such as legislation related to handicapped persons, developing IEPs, developing lesson plans, and evaluating special needs resources.

- In Minnesota, special needs professionals in the department of education, at all 33 Area vocational institutes, and at the University of Minnesota had used 18 of the National Center's special needs resources.

- In Milwaukee, Wisconsin, 18 junior high schools used special needs resources to provide reality-based career exploration experiences for 560 handicapped learners.

The 4 state developed, research-based publications had been used by over 90 percent of the recipients. The primary use had been in secondary classrooms, and for teacher inservice. Some examples of specific uses of state developed publications follow:

- Across Prince George's and Carrol counties in Maryland, 38 special education teachers used curriculum guides to improve the everyday and employability skills of 1350 handicapped learners.

- In 4 schools in Macomb County, Michigan, 17 teachers used research-based resources to provide career-related instruction to 200 handicapped learners in regular vocational classrooms.

- Some of the Michigan developed materials were adopted by the state of Illinois and used with 67 handicapped learners in Lewistown and Canton.

- A state developed resource on teaching the handicapped in regular classrooms was used to instruct 140 vocational educators in Broward County, Florida.

These research and development efforts have contributed to some major effects on vocational education professionals, vocational education programs, and handicapped learners. It is important to emphasize that the approach taken in this study is descriptive, not experimental or comparative. The effects are based on direct observations and descriptions from program participants. Also, the study focuses primarily on the effects of R&D in the best cases. The effects in the schools studied are more pronounced and positive than might be found in all locations. The order of effects in the following list provides an approximate indication of their magnitude.

The effects on vocational education professionals were reported to be (1) strengthened commitment toward serving handicapped learners; (2) increased understanding of handicapping conditions; (3) improved ability to teach handicapped learners; (4) broadened awareness of current issues and trends in educating handicapped learners; and (5) more cooperative working relationships between vocational education and special education professionals.

The effects on vocational education programs were reported to be (1) increased participation of handicapped students in vocational education; (2) more relevant IEPs; (3) improved curricula for handicapped learners especially competency-based and individualized instruction; (4) strengthened linkages between vocational education and special education; and (5) more specialized personnel to serve handicapped learners.

The effects on handicapped learners were reported to be
(1) increased participation in work experiences while in school;
(2) expanded reality-based awareness of career possibilities;
(3) improved self-esteem; (4) improved employability skills; and
(5) strengthened background for productive work after graduation.

The legislation on the handicapped paved the way for much of the research and development on vocational education for handicapped learners. The greatest benefit from this research and development has been attitude change. The findings from this study support the conclusion that vocational educators attitudes toward serving the handicapped have become more positive and that as a result more handicapped learners have been participating in vocational education.

It was found that research and development tended to be used most extensively when the users were committed to serving the handicapped and the programs were highly coordinated. Administrative support was the most critical ingredient for effective programs for handicapped learners, and consequent use of research and development products. The most useful National Center research products were reported to be basic introductory materials on educating individuals with handicapping conditions.

The most useful state developed research products were found to be individualized competency-based modules on occupations.

There was some evidence of second generation effects from the initial investment in research. Several states had secured and adapted products from other states. The greatest use of the National Center's research on the handicapped was not from direct sales but from second generation use in classrooms, workshops, and libraries. However, for both the states and the National Center, dissemination of the products needed improvement. Frequently, state developed research products have been used only within the school district where they were developed. Although National Center publications have been disseminated to all states, they are typically not disseminated in a systematic manner within each state.

Overall, the findings of this study support the conclusion that state and national research has had impact on vocational education programs for handicapped learners. However the greatest impact has been at the awareness and interest stage. Research on handicapped learners must be continued for significant and lasting improvements in the education and employment of handicapped learners.

Based on the findings, the following changes in the policy and practices of vocational education for handicapped learners are recommended. These recommendations also have implications for needed areas of research and development (no priority intended):

1. Expand the vocational education delivery options available to handicapped learners.
2. Provide more support for competency-based vocational instruction for mainstreamed handicapped learners.
3. Increase the supply of support personnel and paraprofessionals to assist in instructing mainstreamed handicapped learners in vocational education.
4. Develop partial certification of handicapped learners for occupations.
5. Ensure that all vocational education teachers working with the handicapped receive related inservice.
6. Continue practical, viable IEPs for all handicapped learners.
7. Involve vocational teachers in developing IEPs.

8. Involve students in developing IEPs.
9. Provide some type of work experience for all handicapped learners while in school.
10. Increase local schools' emphasis on job placement for handicapped learners after leaving school.
11. Establish responsibility and resources for conducting follow-up studies of handicapped learners.
12. Provide more career counseling and career exploration for handicapped students, especially at the junior high level.
13. Expand the number of employers who will provide work sites for handicapped learners.
14. Develop state and local interagency agreements for the vocational education of handicapped learners.
15. Strengthen linkages between special and vocational teachers.

I. NATURE OF INQUIRY

Why Study Vocational Education for Handicapped Learners?

Both the Vocational Education Legislation (P.L. 94-482) passed in 1976 and the Education for All Handicapped Children Act (P.L. 94-142) passed in 1975 placed new emphasis on mainstreaming handicapped learners into regular school classrooms. The Rehabilitation Act of 1973 (P.L. 93-112) provided a primary source of enforcement to both laws. Vocational education programs across the country have responded to the mandates by opening more vocational courses to students with learning disabilities and to those with physical, mental, and emotional handicaps. The financial pressure of operating specialized programs for handicapped learners combined with the desire to provide a least restrictive environment have brought increasingly more handicapped students into vocational classes.

Many handicapped students require more time to learn fewer skills than regular students. However, this investment of time, energy, and dollars may have long-term economic benefits if it reduces the need for future public assistance. If the handicapped student becomes self-sufficient or even decreases the magnitude of dependency, performs well on the job, and remains employed, public monies expended may be more than "paid back." Even more important are the personal benefits to the handicapped person.

Vocational programs serving handicapped students increase their exposure to a wide variety of experiences both inside and outside the school. Vocational programs have the potential to decrease the dependence of handicapped learners on relatives and friends while increasing their sense of well-being and accomplishment. Vocational programs can lead to satisfaction on the job through an acceptance of one's limitations as well as developing aspirations for improvement. Given a chance to use their strengths, many individuals are no longer handicapped after leaving school because they have found jobs that utilize their abilities.

The rewards for vocational personnel from working with handicapped youth are great. Satisfaction comes from personal relationships formed between the teacher and the learner, or the supervisor and the work/study student. Many times, on-the-job supervisors of handicapped learners use their role to influence the life of the handicapped student above and beyond the work situation. It is this intangible feeling of worth transmitted to the student/employee by the supervisor and the teacher that may be the most important outcome of vocational development experiences for handicapped students.

The number of handicapped learners involved in vocational education across the nation is about 235,988 or 1.3 percent of all students in vocational education (National Center for Educational Statistics 1979).* This percentage is low since one would anticipate 7 to 10 percent enrollment given the incidence of handicapped individuals in the population (Halloran, 1978). The number of handicapped students mainstreamed into regular vocational classes is quite small. According to data collected in this series of studies, approximately 120 handicapped students (4 percent) in a 3,000 person comprehensive high school would be enrolling in vocational education. About one to three students would be enrolled in a particular course. The majority of these students would have a learning disability with a slightly smaller proportion being mentally retarded or behavior disordered. A much smaller population would be physically handicapped.

Serving handicapped learners through vocational education programs is a fertile ground for research and development. Almost every vocational educator will have some contact with instructing handicapped learners in this decade but few will have received any formal preparation to assist this population. The vocational education research and development community has been especially responsive to improve vocational education for handicapped learners. For example, over 10 percent of the program improvement projects of the National Center for Research in Vocational Education focused on special need populations during the past four years. Within this area of focus, research on handicapped learners has resulted in over forty publications, since 1978. Similarly vocational education research and development units within each state have also placed considerable emphasis on handicapped learners, with over 294 projects conducted on this topic since 1978.

Scope of the Inquiry

The use of research and development products to improve vocational education provided to handicapped students is the subject of this report. This study focused on the distribution, use, and effects of thirty research and development products to improve services to handicapped learners in vocational education. Fifteen of these products were developed by the National Center for Research in Vocational Education, eleven were developed outside of the National Center but distributed by the

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*In 1978, 355,269 handicapped students were recorded in vocational education (U.S. Office of Education 1978) but with the more stringent Vocational Education Data System definitions, this number was reduced by 34 percent in 1979.

Dissemination and Utilization project and four were developed through state research coordinating units. Another important focus of the study was to describe the current status, problems, and progress related to four goals critical for serving handicapped learners. These goals are:

1. Providing vocational education within the least-restrictive environment
2. Developing individualized education programs
3. Ensuring employability skills and job placement for handicapped learners
4. Linking Vocational Education, Special Education, and Vocational Rehabilitation services.

A variety of methods were used to study the impact of vocational education research and development on handicapped learners including (1) a mail survey, (2) telephone interviews, and (3) case studies. A total of 706 vocational educators and students were contacted to obtain information for the study. This included 321 mail survey respondents, 100 telephone interview respondents, and 285 individuals contacted through seven case studies.

Several study questions of interest remained similar across the different methods. These were:

1. How many individuals have benefitted from R&D conducted on vocational education for handicapped learners?
2. How were R&D products used to improve the quality of vocational education for handicapped learners?
3. What have been the effects on handicapped learners from R&D products?
4. What has been the progress toward meeting critical goals for handicapped learners within vocational education?

Limitations of the Study

The products selected for study and the sites visited represented the best products and sites available to the researchers. Therefore, the effects documented in this study may be viewed as "high water marks" in research and development (R&D) product use and impact.

An appropriate methodology was chosen to match the highly selected products. Semistructured interviews using naturalistic inquiry techniques were used to elicit descriptive detail on the use and impact of these products. This information-rich description communicated effects occurring on site; however, the uniqueness of the sites interferes with the transferability of results. The limited amount of time spent on site--approximately three days in most cases--made it necessary to interview the most informed, articulate persons available. They may or may not have represented most of the people using products on site. Subtle effects of product use may have been missed during this limited opportunity for data collection.

No claim is made for increased student growth as a result of product use. Comparison groups were not studied, and baseline data on student behaviors were not available. Respondents were asked to describe their perceptions of changes in themselves, their programs, and their students since using the R&D product. Indicators of probable effects were inferred from comments in the interviews and direct observation. The interviewers probed response with follow-up questions to elicit specific examples and more detailed information. The inquiry became more focused as the interviews progressed.

The geographic representation of the study is also limited. Although telephone interviews were conducted nationwide, the site visits were restricted to North Central and Southern states. Consequently the results may not adequately reflect the conditions of vocational education for handicapped learners in the Northeastern and Western United States.

II. ISSUES FOR EDUCATING HANDICAPPED LEARNERS

Throughout the inquiry, vocational educators were asked to discuss their progress and problems in educating handicapped learners. Direct observations of vocational programs were also conducted. Opinions and observations related to four issues for educating handicapped learners were collected:

1. Providing vocational education within the least restrictive environment
2. Developing individualized education programs
3. Ensuring employability skills and job placement for handicapped learners
4. Linking Vocational Education, Special Education and Vocational Rehabilitation services

This section describes the current status, problems, progress, as well as policy recommendations in these four issue areas. These findings were obtained through two of the data collection methods described earlier, telephone interviews and case studies. These case studies provided the opportunity to observe twenty-four exemplary vocational education programs for handicapped learners across seven states. The telephone interviews allowed questions on these four issues to be asked of a broader randomly selected sample of individuals representing sixty vocational education programs for handicapped learners across thirty-seven states. After collecting this data, policy recommendations for improving vocational education programs for handicapped learners were derived by the authors.

Issue One: Providing Vocational Education within the Least Restrictive Environment

Current Status

According to the federal Education for All Handicapped Children Act, Public Law 94-142, public agencies must ensure that handicapped children are educated in the least-restrictive environment. This legislation is based on the principle that all children must have access to a public education. P.L. 94-142 established standards for educating handicapped students ages three to twenty-one through the individualized education program. The law actually advocated a normalization approach in order to achieve the least-restrictive environment. The law states:

> Handicapped and nonhandicapped students will be educated together to the maximum extent appropriate,

> and the former will be placed in special classes or separate schools only when the nature or severity of the handicap is such that education in regular classes, even if it includes supplementary aids and services, cannot be achieved satisfactorily. (Education for All Handicapped Children Act 1977, p. 42497).

The integration of handicapped learners into the regular classroom, an option described in P.L. 94-142, has been referred to as mainstreaming.

In all of the schools studied, educators were implementing a variety of instructional strategies in order to provide handicapped students with the least restrictive environment. In fact, in all of the schools, some mainstreaming of handicapped vocational education students was occurring. In Minnesota one vocational program was educating all students, handicapped as well as nonhandicapped learners, through competency-based vocational instruction. In schools visited in Maryland, Michigan, Illincis, and Florida, students were mainstreamed into the regular vocational classroom, usually with support from special education staff. Sometimes these students remained in a self-contained setting for reading and math even though they were in the regular vocational classroom.

Whether handicapped students were placed in the regular or self-contained classroom depended on the type and severity of the handicapping condition. Typically the mildly or moderately mentally impaired and learning disabled students were integrated into the regular classroom. More severely mentally handicapped students and emotionally impaired students were frequently in the self-contained setting. There were few physically handicapped learners enrolled in the schools visited. Due to the low enrollment in vocational programs, progress toward removing architectural barriers for physically handicapped students was rarely observed. Apparently many physically impaired students were entering academically oriented classes rather than vocational classes due to their own interests and abilities.

Within the vocational program many different types of instruction and support services were observed for students. In Maryland and Minnesota, teams of specially trained special education staff supported regular vocational teachers and handicapped learners by providing inservice training and/or direct instruction to students. Special education teacher consultants and paraprofessionals in Michigan supplemented vocational instruction with competency-based modules. Illinois provided inservice for teams of special education and vocational education administrators and teachers. Curriculum development and adaptation activities at local schools were encouraged through minigrants. In Florida, these types of inservice activities were provided for selected groups of vocational teachers at the county level.

Problems and Progress

The major problem that vocational educators expressed in their attempt to provide the least-restrictive environment for handicapped learners was a frustration about not knowing how to utilize resources such as staff, dollars, and time to effectively provide instruction. This was complicated by a lack of clarity among vocational educators about how to interpret and implement the federal requirements. As one administrator said:

> The least-restrictive environment is seen primarily as mainstreaming into the regular classroom. A lot of handicapped learners will be placed in the class when they shouldn't be placed there. Most important is where he or she can learn best. We need a change in attitude to accept that position.

Some of the specific problems and successful approaches to resolving these problems follow.

First, vocational teachers reported that it is difficult to modify a course and individualize instruction for students in a classroom. Many teachers lacked the skill to make changes in their curriculum to accommodate the diverse needs of handicapped and nonhandicapped students. Those schools with competency-based instruction were experiencing the most success. In addition, schools that provided support staff, paraprofessionals, or other volunteers could provide more individualized assistance to learners.

Second, vocational teachers were teaching specific skills that must transfer to the work setting once the individual became employed. These tasks were drawn directly or indirectly from jobs in the business-industrial complex. In order for a student to become employable in that setting, they must master the specific tasks for job entry (Gill 1979; Scott 1979). Given this situation, vocational teachers were uncertain about reducing course requirements or lowering criteria for handicapped students and allowing students to complete a course without mastering all of the skills. Tailoring tasks to the individualized levels of students to provide them with necessary job skills was difficult for many vocational teachers to accomplish. In Michigan, students worked on part of the tasks to obtain partial credit toward "completing the course." For students who could not reach graduation, the practice provided incentive for continuing in school.

Third, vocational educators lacked knowledge of handicapped learners and were fearful of having handicapped students in their classes. Vocational teachers were frequently isolated in their service area and were reluctant to use special education resources even if they were available in the school. Similarly, special education teachers typically didn't seek out vocational education teachers. A resource developer from Wisconsin explained:

> There is a need for teacher inservice about least restrictive environment. There is still a lot of reluctance from people who have seen this legislation develop. Special education doesn't always share the responsibility or support vocational education.

For this problem, experience seemed to be the best teacher. After having a handicapped student in their class, the majority of vocational teachers were found to be willing to work with additional handicapped students and were more likely to seek out special education resources.

Policy Recommendations

1. Expand the vocational education delivery options available to handicapped students. In most vocational education programs only two options are available, mainstreaming or separate classes. Options should be expanded in more school settings to include adapted vocational education curriculum, individualized vocational education, tutorial instruction, work-experience placement, and prevocational evaluation services.

2. Provide more support for competency-based vocational instruction for mainstreamed handicapped students. A competency-based approach makes it much easier to provide instruction to handicapped learners since the program can be individualized. The benefit for learners includes visible progress toward occupational proficiency.

3. Increase the supply of support personnel and paraprofessionals to instruct mainstreamed handicapped students in a tutorial mode. The regular classroom instruction is frequently difficult for handicapped students to follow. Vocational instruction for handicapped learners may not be appropriate since teachers are unsure of how to individualize. The supplemental staff can aid vocational teachers inside or outside the classroom.

4. Develop partial certification requirements for handicapped learners in different job areas. This will allow handicapped students to be accurately certified for the job competencies they can perform. In addition, when students are not capable of competing in an entire program they still can attain a skill which may be useful in the future.

5. Ensure that all vocational education teachers working with handicapped learners receive related inservice. The topic for inservice should include information on handicapping conditions, developing IEPs, developing lesson plans, modifying instruction, evaluating performance, and job placement. Experience with handicapped learners appears to be the best situation but learning experiences can also be beneficial.

Issue Two: Developing an Individualized Education Program (IEP)

Current Status

An IEP is an "extremely useful and farsighted document," according to one educator, "it's a good plan for any learner." Developing and implementing an individualized education program for each handicapped individual in a public school is an obligation of local education agencies. This responsibility mandated by Public Law 94-142, is vested in many different roles throughout the public school system. The primary responsibility for development and annual revision of IEPs usually falls on a coordinator of special education. Numerous of other people should be involved in the process including the following:

- Individuals, who assess current functioning levels and estimate the interests and abilities of the learner
- Parents, who approve the IEP for their child and aid in the learning processes at home
- The child, where appropriate
- Teachers, who contribute substantive knowledge, for example occupational skills necessary to become more self-sufficient in the world of work

The IEPs are supposed to specify the functioning levels of the learner, annual goals, short-term objectives, objective criteria by which progress toward the short-term objectives can be measured, services planned for the learner, and the degree of participation in regular classes. Periodic meetings of the student's IEP planning committee are supposed to be scheduled.

In all of the schools visited, procedures for developing IEPs were implemented. The fidelity of the implementation to legal guidelines varied from site to site depending upon the commitment of staff and availability of resources.

School systems varied in their ability to deliver services to handicapped learners. Some were more affluent than others. Districts with more money could afford to hire more specialized staff than other districts. Most districts tended to identify handicapped students in elementary or middle school. IEPs are written at this time and updated annually. In the field sites studied, 60 to 70 percent of all middle school students participated in exploratory occupational experiences. Knowledge gained by handicapped students through these activities formed the basis of interest inventories used in developing IEPs for high school.

Problems and Progress

Interviews with vocational teachers indicated that few had been involved in developing IEPs for students. Most teachers "don't know they exist," according to one vocational teacher. Vocational teachers believed it was important "not to water down standards...we have to look at the competencies required (by the job) and break them down so a learner can attain the required standard." To do this, a vocational teacher should be involved in developing the IEP from the beginning. Some states, e.g., Oregon and New Hampshire, have implemented Individualized Vocational Education Programs (IVEPs) for all vocational students.

In the schools studied, the development of viable IEPs required systematic attention of professional educators and parents. Exemplary programs meeting the needs of handicapped learners almost always included at least one dedicated professional staff member. Frequently, the professional was closely associated with a handicapped person. Occasionally, it was possible to identify exemplary elements of a system for developing IEPs. For example, Carroll County, Maryland had developed a computerized bank of behavioral objectives that could be adapted for IEPs. Specific objectives were interpreted from test scores, and interviews were held with the learner; but the preconstructed behavioral objectives served as a useful point of departure for writing the IEP.

Another useful aspect of developing IEPs was the opportunity it provided for joint planning. Scheduled review of individual education programs brought together people with diverse backgrounds and promoted communication across departmental lines. The linkage between vocational education and special education helped teachers understand why "the other" department promoted specific instructional priorities. The IEP has become a tool for educating both vocational and special education teachers.

Highly focused, practical IEPs can help teachers identify appropriate learning activities for handicapped students in the classroom. When developed, an IEP relevant to the needs of the student can be used as a mechanism for accountability. Unfortunately, most IEPs lacked the precision necessary for optimum planning. They dwelled on cognitive and psychomotor skills to the exclusion of affective objectives. They tended to lack the type of specific objectives that could have been used by vocational teachers to guide learners' instruction and increase employability skills. Frequently they were written quickly by an overworked coordinator who saw them as a compliance document. This view was echoed by teachers and others associated with the IEP process. The rushed schedule and lack of personnel often precluded meaningful involvement of parents in the development of the IEP. Likewise, many vocational teachers interviewed during the case studies complained of not being asked to help develop the IEPs. One teacher "felt like a rubber stamp" when asked to sign the document because she had not contributed to its preparation. When a vocational teacher educator from Virginia was asked about teachers' involvement in writing IEPs, his response seemed to summarize many others' feelings:

> Vocational teachers involvement in writing IEPs varies all over. Most vocational teachers are only involved when learners are placed in their program. Vocational administrators are usually involved from the beginning. It works best when vocational teachers are involved at first.

Vocational teachers need to help plan IEPs because they frequently are the best person to consult about occupational ability to perform in an occupation. An IEP is essential if maximum benefits are to be gained from participation in class.

Some administrators believed the identity of handicapped students should be protected. Teachers learned about handicapped students only as problems began to occur in class. This philosophy of "treating handicapped students like everybody else" had benefits, but it did not provide for affirmative action to meet the needs of mainstreamed handicapped learners before problems occurred. Teachers needed to know if students required special attention for learning to take place.

Occasionally, there was a problem with the transfer of records from one school to another, or in sharing records with regular vocational teachers. This situation was symptomatic of a larger problem involving lack of communication among teachers. Teachers needed a reason to meet together. The development of an IEP provided an excellent child-centered opportunity to talk to each other.

Policy Recommendations

1. Continue practical, useable IEPs for all handicapped learners. Competency based IEPs help create realistic expectations for what the student can do. Unnecessary paperwork should be eliminated, and the IEP should emphasize basic living

skills, such as, how to get along with others, how to get a job, and how to care for self. This focus will tend to reduce preconceived negative ideas related to the handicapping conditions.

2. Involve vocational teachers in developing IEPs. Vocational teachers and placement officers know the demands of the marketplace. They are in a good position to develop appropriate vocationally oriented objectives and help the student obtain an entry-level position in an occupation.

3. Involve students in developing IEPs. Whenever IEPs contain career decisions/goals, it is desirable to involve the student in its development. The avenue for this involvement may be through the guidance counselor or with the committee directly. The nature and extent of the involvement depends on the severity of the handicap and the specificity of the program.

Issue Three: Ensuring Job Placement and Employability Skills for Handicapped Learners

Current Status

Handicapped individuals have not feared well in the job market. Of the 30 million disabled people in the country, only 4.1 million are employed. Of those who are employed, 85 percent earn less than $7,000 annually and 52 percent earn less than $2,000 per year (U.S. Bureau of the Census, 1976). Although providing an education for handicapped learners is more expensive than for regular learners, education can be viewed as an investment to avoid life-long dependence on federal income maintenance programs. Recent studies have shown that after subtracting the cost for education, payback to the community for a handicapped individual who receives twelve years of public education and then works at minimum wage for forty years is $61,144. (Rossmiller, Hale, and Frohreich 1971; Braddock, 1976)

In the schools studied, most of the vocational and special education teachers felt strongly about job placement. Teachers believed that handicapped students learn more and receive more relevant instruction through holding jobs while in school. Between 30 to 50 percent of handicapped students had jobs while in school. Some schools provided most of the vocational instruction for handicapped students through on-the-job-training with limited opportunities for related technical instruction.

Job placement rates for handicapped students after graduation were considerably lower then the placement rates for regular students. When this situation is combined with the number of handicapped students who drop out without completing high school, the number of handicapped individuals who could end up on public welfare would be quite high. Although vocational teachers were typically responsible for following up their handicapped students at one, three, and five year intervals after graduation, most teachers had not been able to contact the students and did not have complete information about their employment status.

In the schools studied, the majority of handicapped students had taken an employability skills class that included information on basic life skills, money management, work habits and attitudes, as well as other job-related information. This class was typically taught by a special education teacher. Vocational teachers generally did not view teaching employability skills to handicapped students as their responsibility and did not want to be involved.

Most of the schools had developed linkages with specific businesses or industries for job placement slots. A few local firms such as a cafeteria or a nursing home, which were especially receptive to placement of handicapped students, were typically relied on for many of the placements. Unfortunately, reliance on a few willing job sites limits the career development opportunities for handicapped persons. Schools also typically had relationships with CETA, Goodwill Industries, and Vocational Rehabilitation for help in evaluating students and placing them in jobs.

Problems and Potential

The attitude towards the importance of jobs by both vocational and special education teachers is positive. Teachers viewed jobs, internships, and shop experiences as essential for building students' job skills, self-esteem, grooming habits, and other work habits. Earning money and being on the job was viewed as contributing to students' self-image and helping keep students in school. The focus on helping handicapped students obtain jobs while they were in school was very strong with both special and vocational teachers interested in their placement.

However, job placement after leaving school was another story. The responsibility for job placement of handicapped students differed across schools and seemed to lack clarity and coordination in many instances. The responsibility seemed to float among the special education coordinator, vocational education teacher, guidance counselor, and school placement officer if there was one. In some schools, no school personnel took any responsibility for job placement. In most cases the special education teacher took responsibility but was often viewed as "trying to be all for the handicapped." Special educators often did not draw upon the expertise of vocational educators who usually had better knowledge of job competencies and more contacts with employers in the marketplace. The special knowledge and skills of vocational educators in job placment was frequently not put to use for handicapped learners. Because job placement is such a difficult and critical area, it is important for vocational and special educators to work together to give it extra effort. As one respondent said "It needs overemphasis just to get half way there."

Some other problems that plague job placement while in school and after leaving include the following:

1. Transportation to jobs--especially for students with physical or multiple handicaps
2. Finding sufficient placement slots in the local community--especially in rural areas
3. Students having unrealistic career expectations and feeling frustrated when they are not able to perform on the job
4. Students lacking the employability skills to handle criticism from employers or resolve the small problems that come up on the job
5. Students being tracked into low functioning jobs that are below their capacity

Handicapped students, especially those with mental handicaps, are typically placed in the lower occupational areas of food service, custodial service, and health occupations. There is some sentiment that too many handicapped students are being tracked into low functioning and low paying jobs that are below their capacity. On the other hand, there is also the sentiment that parents often have unrealistic career expectations for their handicapped children and are adding to their frustration by pushing them beyond their capacity. It is felt that both situations occur and that the tendency to track handicapped students below their capacity is the more dominant of the two problems. The real problem may be lack of appropriate student evaluation to develop a realistic plan for goal setting. But the push-pull and appropriate balance between unrealistic career expectations and tracking students below their capacity needs further study.

Policy Recommendations

1. Provide some type of in-school work experience for all mainstreamed handicapped students. Work experience can be accomplished through cooperative placement, work study, internships, or shop activities. However work experience should not be used as a total substitute for classroom instruction.

2. Increase local schools' emphasis on job placement for handicapped students after leaving school. Clarify the responsibilities for job placement. The special education teacher should have primary responsibility in most cases but the vocational teachers should be systematically involved.

3. Establish responsibility and resources for conducting follow-up studies of handicapped students. The follow-up data on handicapped students are very poor and must be improved if we are to know how these students are faring in the labor market. It may be advisable to establish a minimum percentage of handicapped students who must be contacted in follow-up studies.

4. Provide more career counseling, career exploration, and vocational assessment for handicapped students, especially at the junior high level. Career counseling and exploration can work against the problems of unrealistic expectations and tracking below capacity.

5. Expand the number of employers who will provide work sites for handicapped learners. The number of work-site agreements for in-school and permanent job placements must be expanded to provide more opportunities for all handicapped students to work. This also will help ameliorate the problem of tracking too many students into a narrow set of low functioning occupations.

Issue Four: Linking Vocational Education, Special Education, and Vocational Rehabilitation Services

Current Status

Linkage among different agencies and individuals is especially important for serving the handicapped. Not only are there three major laws affecting vocational education for the handicapped, but there are unique areas of expertise within special education, vocational education, and vocational rehabilitation. Special educators have expertise in handicapping conditions and modifying instruction for individuals with different handicaps. Vocational educators have expertise in teaching occupational competencies. Vocational rehabilitation personnel have expertise in helping handicapped individuals find jobs and other support services. These three perspectives are all important to helping handicapped individuals succeed in vocational education and the marketplace.

At the state level, several states have begun to develop formal agreements that delineate responsibilities for educating special needs populations. For example, a project on linking agencies serving the handicapped is underway at the Wisconsin Vocational Studies Center. In a few states, such as Maryland, Virginia, and New Jersey, state agencies are piloting formal interagency agreements between vocational education, special education, and vocational rehabilitation. The purpose of these agreements is to clarify which agencies will provide needed services, to prevent duplication, and clarify responsibilities. However, at the present time, the number of instances of states developing successful, interagency linkages is quite limited. Participants of a conference held in Wisconsin to educate state administrators about linkage, came away feeling that formal linkages at the state level were in their infancy.

One state visited, Michigan, had developed a cooperative plan in 1980 between vocational education, special education, and vocational rehabilitation. This agreement took most of the 1970s to develop. However, this work seemed to pay off, since the state level linkages influenced the development of linkages at the local level. Formal service agreements had been implemented in the intermediate school districts in Michigan. In the state of Illinois, strong linkages had developed between the state level and local level because of the technical assistance provided by state consultants through the Illinois Network. This dissemination network created a linkage that provided a direct line of communication to local schools concerning state policy, new developments, and innovations.

At the local level, some linkage between special and vocational education was occuring in all the schools studied. The most effective linkage occurred in school districts that had personnel with dual certification in vocational and special education serving as Vocational Education Special Needs Coordinators. Schools that did not have personnel with dual degrees typically had some communication occurring between vocational education, special education, and vocational rehabilitation. It was observed that the most prevalent types of linkages existing among teachers (from most to least frequent) included: (1) helping teachers solve a problem with handicapped students; (2) inservice; (3) development of IEPs; (4) job placement; and (5) evaluating students. For administrators, IEPs and inservice would head the list. Local administrative support was viewed as accounting for much of the success when linkages between vocational and special education were occurring.

Other types of staff assignments at local schools seemed to encourage the linkage between vocational education and special education. Support service teams, whose job consisted of facilitating instruction for the handicapped student in vocational education, were communicating on a continuous basis with special education and vocational teachers. In Maryland, support service teams worked directly with administrators and teachers from the two disciplines. In Minnesota a similar plan had been implemented that provided tutors and supplemental instructors for the handicapped. The role of these instructors involved working with students and teachers, including developing curricula and providing inservice.

Considerable progress has occurred in the areas of preservice and inservice education in preparing vocational educators to serve handicapped learners. In the school studied, a typical vocational teacher had received sixteen hours of inservice in special education during the previous school year. Most vocational education teachers' preservice programs now offer courses in meeting the needs of the handicapped.

Problems and Progress

In the states studied, interagency linkage to serve the handicapped was viewed by educators as an essential but sporadic occurrence. However, most states had not made progress and lacked any type of model for interagency linkages. Several state administrators did not agree on the extent of formality the agreements contain. A state administrator in Florida said that local programs in the state were funded based on the quality of the linkage. However, he felt linkages could be established through means other than written agreements. The work on linkages conducted by the Wisconsin Vocational Studies Center and the states who were participating in the project provides potential for improving interagency agreements within the states.

In the schools studied during 1981, linkage because of administrative direction, staff organization, or work on IEPs seemed to create the most cooperative relationship between special education, vocational administrators, and vocational teachers. In many schools, it appeared that teachers did not have any reason to communicate constructively about teaching the handicapped. A means for sharing information about students is the IEP. When it was not availale, vocational teachers lacked the opportunity to assist in planning a learner's program. IEP committees accomplished this task and seemed to stimulate cooperation at the onset.

Many of the schools studied, employed staff with advanced degrees or special training in special education to work with special needs students. When personnel had a background in the two fields, more understanding and accommodation seemed to take place. Inservice in one vocational institute in Minnesota had completely changed some vocational teachers' attitudes toward educating the handicapped. Apathetic teachers became advocates for handicapped learners. Statewide inservice workshops in Illinois dealt directly with linkage when they encouraged dual attendance of special education and vocational education administrators and teachers at workshops. When these individuals returned to the school they shared some of the same feelings and ideas for the first time. Progress toward better communication and programs for the handicapped was usually made after these workshops.

Policy Recommendations

1. Develop state and local interagency agreements for the vocational education of handicapped students. However, these agreements should not prevent loosely coupled linkages or turn into compliance documents.

2. Strengthen linkages between special and vocational teachers. Ways are needed to extend this linkage to areas such as evaluating students, curricular development, and designing inservice. One way to strengthen linkage is to increase the pool of vocational education and special education personnel with dual certification.

III. IMPACT OF THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION ON HANDICAPPED LEARNERS

The purpose of this portion of the study is to examine the work of the National Center for Research in Vocational Education on handicapped learners. Since its inception, the National Center has been committed to serving special needs populations by producing and/or disseminating publications, sponsoring workshops, and providing technical assistance for a variety of groups. For this portion of the study, twenty-six publications and seven National Academy workshops focusing on handicapped populations provided since 1978 were selected and examined from the entire scope of the National Center's work in special needs.

Distribution of National Center Resources

Fifteen publications being studied were developed by the National Center and sold through cost-recovery since 1978. An additional eleven resource materials, developed outside of the National Center, were selected for distribution by the Dissemination and Utilization project because of their exceptional quality. Table 1 illustrates sales and free dissemination of these twenty-six publications for January 1, 1978 to June 30, 1981.

These sales and free distribution data indicate over 33,000 resources have been shared with administrators, teachers, counselors and students. Individuals using National Center resources are most frequently affiliated with colleges/universities, local education organizations, state education organizations, postsecondary institutions and education research and development organizations (respectively).

When compared with all of the resources sold through cost-recovery at the National Center, resources for handicapped populations have been extremely popular. In 1979, four resources for handicapped learners in vocational education were among the top twenty-two sold. *Individualized Education Programs (IEPs): A Handbook for Vocational Educators* topped all other National Center resources in 1980 by reaching over 2,000 individuals. Throughout the first six months of 1981, five resources for handicapped individuals have been top ten sellers. Sales of all of the resources for handicapped populations have been higher during January-June 1981 than the same time period of 1980.

TABLE 1

DISTRIBUTION OF NATIONAL CENTER PUBLICATIONS FOR HANDICAPPED LEARNERS

January 1, 1978 - June 30, 1981

National Center Resources	Sales*	Total Free Dissemination**	Total Distribution
It Isn't Easy Being Special (set of 7 resources)	257	—	257
I Like You When I Know You: Attitudinal Barriers to Responsive Vocational Education for Handicapped Students	724	—	724
Let's Work Together: Intervention Strategies for Learners with Special Needs	744	—	744
Let's Find the Special People: Identifying and Locating the Special Needs Learners	714	—	714
Here are Programs that Work: Selected Vocational Programs and Practices for Learners with Special Needs	756	—	756
Resources: Agencies and Organizations that Serve Special Need Learners	365	—	365
Resources: Materials for Special Needs Learners	370	—	370
Let's Help Special Needs Learners: A Resource Guide for Vocational Education Teachers	900	—	900
The Career and Vocational Development of Handicapped Learners: An Annotated Bibliography	215	—	215
The Career and Vocational Development of Handicapped Learners	318	—	318
Serving Handicapped Students in Vocational Education: A Guide for Counselors	398	—	398
Least Restrictive Alternative for Handicapped Students	933	1,473	2,406

*Sales through the National Center's Cost-Recovery operation.

**Free dissemination was through the National Center Dissemination & Utilization Function.

TABLE 1 (Continued)

National Center Resources	Sales*	Total Free Dissemination**	Total Distribution
Development of Individualized Education Programs (IEPs) for the Handicapped in Vocational Education	1,298	1,451	2,749
Guidance Needs of Special Populations	1,506	1,677	3,183
Job Placement and Adjustment of the Handicapped: An Annotated Bibliography	1,274	1,208	2,482
Individualized Education Programs (IEPs): A Handbook for Vocational Education	2,612	1,035	3,647
Dissemination and Utilization Resources			
Guidance, Counseling and Support Services for High School Students with Physical Disabilities	—	305	305
Vocational Education for Handicapped Students: A Guide for Policy Development	—	441	441
Vocational Education: Teaching the Handicapped in Regular Classrooms	—	414	414
Evaluating Resources for Handicapped Students	—	2,187	2,187
Another Step Forward (set of 5 resources)	946	286	1,232
Mainstreaming Handicapped Students into the Regular Classroom	1,100	—	1,100
Characteristics of Handicapped Students	1,766	—	1,766
A System of Management	1,026	—	1,026
Evaluation and Placement	1,747	—	1,747
Architectural Consideration for a Barrier Free Environment	1,032	—	1,032

TABLE 1 (Continued)

Dissemination and Utilization Resources	Sales*	Total Free Dissemination**	Total Distribution
Working on Working	328	656	984
Taking on Tomorrow	351	507	858
	21,680	11,640	33,320

Use of National Center Resources and Conferences

This survey examined the use and effects of the National Center's resources and conferences for handicapped populations. This portion of the report will focus on primary and secondary use of National Center resources and a brief section on use of National Academy conference information follows.

Telephone interviews were conducted with 100 individuals who had obtained resources focusing on handicapped learners or attended National Academy conferences. Two-thirds of the interview candidates were randomly selected in March 1981 from all individuals who had purchased or received resources and/or attended conferences since February 1978. The remaining one-third of the sample was selectively chosen from individuals who had a high degree of involvement with the National Center.

The interview schedule used in this study was developed by the National Center Evaluation Team and pilot tested with five individuals who had extensive contact with the National Center since February 1978. Structured, open-ended questions were used throughout the interview schedule. The average telephone interview lasted twenty minutes. Interviews were conducted between May 1 and July 15, 1981. A copy of the interview schedule is included in the Appendix.

Background of Respondents

The majority of respondents were employed as university faculty, or state or local administrators (74 percent). One-fifth of the respondents (20 percent) were employed as postsecondary faculty, counselors, or researchers. In table 2, the role and organization of respondents has been combined to provide a picture of the type of work performed by respondents.

TABLE 2

ROLE AND ORGANIZATION OF RESPONDENTS
(N = 100 Respondents)

Role and Organization	Percentage
University Faculty	29
Local Administrator	24
State Administrator	21
Postsecondary Faculty	10
Counselor	5
Research and Development Specialists	5
Other	6

Most respondents had expertise in vocational education (59 percent). About one-fourth of the respondents (25 percent) were working in special education or a combined special/vocational education area (table 3). Most respondents in the "other" category had a background in another field of education.

TABLE 3

SUBJECT AREA OF RESPONDENTS
(N = 100 Respondents)

Subject Area	Percentage
Vocational Education	59
Special Education	18
Vocational/Special Education	7
Other	16

Most respondents had obtained resource materials from the National Center, 90 percent, whereas almost one-fifth of the respondents had attended a conference or workshop that focused on handicapped populations (table 4). Involvement with the National Center through consultation occurred less frequently. "Other" types of involvement with the National Center included respondents' obtaining brochures or newsletters from the National Center, sponsoring conferences for the National Center or purchasing other products besides those developed for handicapped populations. One-fourth of the respondents had been involved with the National Center in more than one activity, usually attending a conference and then purchasing resources.

TABLE 4

RESPONDENTS' INVOLVEMENT WITH THE NATIONAL CENTER DURING THE PAST THREE YEARS
(N = 100 Respondents)

Involvement	Percent
Obtained resource materials	90
Attended conferences	19
Provided consultation	7
Received consultation	4
Other	5

Sixty-two of the respondents recalled how they had become acquainted with these National Center resources. National Center publications were identified through the Centergram and brochures by 40 percent of the respondents (table 5). Professional advertisements in journals and newsletters were used to locate National Center resources by 21 percent of the respondents. Personal contact from National Center staff, at the American Vocational Association convention, and from the product users were other sources for National Center resources.

TABLE 5

SOURCE OF INFORMATION FOR NATIONAL CENTER
SPECIAL NEEDS RESOURCES
(N = 62 Respondents)

Source of Information	Percentage
Centergram	21
Professional journal/newsletters	21
Product Brochures	19
Word-of-mouth from product users	13
National Center catalogue	11
A Convention	8
Personal contact with National Center staff	7

General Use of National Center Resources

Seventy percent of the respondents explained their reasons for obtaining National Center resources (table 6). When ordering the resources, 38 percent of the respondents planned to use the materials as a reference, 30 percent planned to use these resources in a workshop or classroom, and 24 percent planned to file the material.

Once the resources had been received, frequently other uses were found for the materials. Table 7 ranks the publications by number of respondents using them and by the usefulness of the resource as described by each respondent. These use data indicate that on the average the pattern of using National Center publications was: (1) in a workshop or classroom (45 percent), (2) read as a professional reference (36 percent), and placed in a library or resource file (17 percent). Apparently even though respondents ordered resources with plans only to read and study them, frequently resources ended up in a classroom or workshop situation.

TABLE 6

REASONS FOR OBTAINING NATIONAL CENTER RESOURCES
N = 70 Respondents

Needs	Percentage*
Professional Reference	
To provide background in the special needs area for a professional's own use	23
To provide background in the ways to write individualized education programs	9
To provide information for writing or revising curriculum	6
Workshop or Classroom	
To provide information and resources for inservice of teachers	16
To provide information and resources for undergraduates in teacher education programs	14
Library or Resource File	
To provide resources for library resource centers or dissemination networks	13
For local administrators to provide materials for teachers, guidance personnel, and other support staff	11

*Needs identified by less than eight respondents are not contained in this table that accounts for a total percentage of less than 100 percent.

TABLE 7

USE AND USEFULNESS OF NATIONAL CENTER PUBLICATIONS

Publication	Number of Respondents who acquired Publicationn	Use				Usefulness*		
		Read	Placed in Library Files	Used in workshop classroom	Other	Not at All	Somewhat	Extremely
Individualized Education Programs: A Handbook for Vocational Educators	37	32%	11%	49%	8%	---	28%	72%
Another Step Forward (set)	36	19%	28%	47%	6%	---	33%	67%
Job Placement and Adjustment of The Handicapped: An Annotated Bibliography	36	23%	15%	54%	8%	---	50%	50%
Least-Restrictive Alternative for Handicapped Students	33	20%	10%	70%		---	33%	67%
Development of Individualized Education Programs for The Handicapped in Vocational Education	31	50%	25%	12.5%	12.5%	---	50%	50%
Guidance Needs of Special Populations	29	17%	---	83%	---	---	25%	75%
It Isn't Easy Being Special (set)	22	50%	18%	27%	5%	9%	27%	73%
Vocational Education: Teaching The Handicapped in Regular Classrooms	14	21%	14%	50%	14%	---	20%	80%
Evaluating Resources for Handicapped Students	11	9%	27%	45%	18%	---	17%	83%

*Usefulness was described by only those respondents who had actively used the publication.

TABLE 7 (Continued)

Publication	Number of Respondents who acquired Publicationn	Use				Usefulness*		
		Read	Placed in Library Files	Used in workshop classroom	Other	Not at All	Somewhat	Extremely
Guidance, Counseling, and Support Services for High School Students with Physical Disabilities	11	9%	18%	67%	9%	17%	33%	50%
Working on Working	10	30%	10%	60%		---	---	100%
The Career and Vocational Development of Handicapped Learners	9	56%	22%	22%	---	---	25%	75%
Serving Handicapped Students in Vocational Education: A Guide for Counselors	9	78%	22%	---	---	50%	---	50%
The Career and Vocational Development of Handicapped Learners: A Resource Guide for Vocational Education Teachers	8	50%	12.5%	37.5%	---	---	33%	67%
Vocational Education of Handicapped Students: A Guide for Policy Development	5	40%	20%	40%	---	---	20%	80%
Taking on Tomorrow	3	33%	---	33%	33%	33%	33%	33%
It Isn't Easy Being Special - I Like You When I Know You: Attitudinal Barriers to Responsive Vocational Education for Handicapped Students	2	50%	---	50%	---	---	---	100%

TABLE 7 (Continued)

Publication	Number of People who acquired Publication	Use				Usefulness		
		Read	Placed in Library Files	Used in workshop classroom	Other	Not at All	Somewhat	Extremely
It Isn't Easy Being Special - Here Are Programs That Work: Selected Vocational Programs and Practices for Learners With Special Needs	2	50%	---	50%	---	---	50%	50%
It Isn't Easy Being Special - Resources: Agencies and Organizations That Serve Special Need Learners	2	50%	---	50%	---	50%	---	50%
It Isn't Easy Being Special - Resources: Materials for Special Needs Learners	1	---	---	100%	---	---	---	100%
It Isn't Easy Being Special - Let's Help Special Needs Learners: A Resource Guide for Vocational Education Teachers	1	---	100%	---	---	---	100%	---

The majority of publications were rated high in terms of their usefulness. In fact, fifteen individual publications and two sets were rated by 100 percent of the respondents as somewhat or extremely useful. Only a few respondents indicated that four resources contained information that was not useful.

Respondents who had used a number of National Center resources were asked through a direct, open-ended question to identify the resource that had been most useful. Table 8 ranks the five resources identified by 52 respondents as most useful. The resource that was ranked highest was Guidance, Counseling, and Support Services for High School Students with Physical Disabilities by 73 percent of the resource users.

Specific Uses of National Center Resources

As stated previously, most respondents had used the National Center resources in three ways: as a professional reference, in a library or resource file, or in a workshop or classroom situation. Yet, the manner in which the National Center resources were used in each of these three ways were quite diverse as indicated by the following anecdotes:

- A researcher at the Wisconsin Vocational Studies Center in Madison had reviewed eleven of the National Center's publications to write a chapter for a special needs document developed by that Center. She had also selected Taking on Tomorrow to be used in an inservice workshop with sixteen vocational home economics teachers.

- A director of a local vocational-special needs program had obtained copies of resources focusing on IEPs to develop a format for teachers to use when writing IEPs. He estimated that fifteen to twenty vocational teachers had been inserviced through an IEP workshop and another ninety vocational teachers in the school district had reviewed the resources.

- Eleven special needs resources were used by an Illinois Department of Vocational Education professional development coordinator to provide technical assistance to state special needs consultants. One National Center resource, Guidance, Counseling, and Support Services for High School Students with Physical Disabilities was also disseminated to 240 local school districts sites for the Illinois Network, a network that disseminates materials for special needs populations throughout the entire state.

TABLE 8

FIVE TOP RATED NATIONAL CENTER RESOURCES
(N = 52 Respondents)

1. Guidance, Counseling, and Support Services for High School Students with Physical Disabilities
2. It Isn't Easy Being Special (set)
3. Individualized Education Programs: A Handbook for Vocational Educators
4. Development of Individualized Education Programs for the Handicapped in Vocational Education
5. Vocational Education: Teaching the Handicapped in Regular Classes

- One vocational director at a private school for mentally impaired students in Massachusetts had obtained National Center resources after attending an American Vocational Association workshop in December, 1980. Three sets of resources had been used in a large sheltered workshop with fifty-two students. In addition the film Working on Working, had been rented and shown to the thirty vocational staff at the school.

- Two of the National Center's resources were obtained by a county vocational supervisor in Tampa, Florida. These resources were available to 150 vocational teachers through a traveling library. Most of the vocational teachers had checked out these materials.

- Three vocational teacher educators at Auburn University were using the resource set, It Isn't Easy Being Special, and other resources in several different ways. They had obtained fifty copies of the National Center's materials and made them available to 250 undergraduate students. The resources were also used with cooperative extension groups, inservice workshops across the state, off-campus courses, and in research.

- A researcher at the Technical Education Resource Center in Cambridge, Massachusetts had displayed Another Step Forward and three other resources at five workshops. About 250 guidance counselors had obtained these materials and used them following the inservice activity.

- One special needs consultant in Illinois had obtained Guidance, Counseling, and Support Services for High School Students with Physical Disabilities from the National Center and used it with guidance counselors throughout a sixteen county regional area. A total of forty counselors had attended two workshops where the resource was distributed. In addition, this consultant had provided some technical assistance for this resource at a junior college and state correctional center.

- In Minnesota, two special needs managers in the state department of education, the special needs coordinator at the 916 Vocational Technical Institute, and vocational-special needs teacher educators at the University of Minnesota had obtained eighteen of the National Center's resources and used them for preservice, inservice, and professional development activities.

Secondary Use

For eighteen of the National Center's resources, respondents had gone beyond using the resources for themselves, and had distributed them for others to use. This practice frequently occurred through formal university classes, inservice workshops, or by circulating materials to professional staff. Each of these eighteen resources had been used in at least two separate activities and four of the resources had been used in twenty or more activities. In many instances the resources were circulated throughout a group of staff to achieve professional development goals. The secondary users of the National Center publications included university faculty, state and local administrators, secondary teachers and counselors, university students, researchers, parents, and others (table 9).

Publication sales to the sample of 100 individuals who were contacted for telephone interviews represent about 3 percent of the total publications sold. The secondary use of publications by the sample provides a rough estimate of the total population of secondary users of the publications for handicapped populations during a two-year period. These population estimates are also shown in table 9.

The greatest percentage of secondary users were special education and vocational teachers for eleven of the eighteen products. University students had used four of the remaining seven materials more than any other group, whereas counselors and state administrators used the other three resources more than any other group.

The scope of secondary use was quite extensive when one realizes that seven of the eighteen materials, almost 40 percent, had been received by over 1,000 professionals in the field after being obtained by a few purchasers. For example, the IEP Handbook had been received by over 3,000 secondary users in the field through only about twenty inservice and preservice activities.

National Academy Conferences

Since October of 1979, the National Academy at the National Center for Research in Vocational Education has sponsored seven conferences focusing on handicapped populations. Two workshops were held prior to the American Vocational Association Convention in 1979 and 1980. Three conferences were developed around the SERVE program at the Vocational Institute at White Bear Lake, Minnesota during 1979 and 1980. Two additional workshops were held at Philadelphia in 1980 and Salt Lake City in 1981. Approximately 130 educators from across the country attended these conferences. Nineteen conference participants were

TABLE 9

SECONDARY USES OF NATIONAL CENTER RESOURCES DURING A TWO-YEAR PERIOD, 1979-1981

		Sample of 3 Percent	Population Estimates*
Settings	Workshops	20	660
	Classrooms	19	627
	Dissemination Activities	40	1,320
	Total	79	2,407
Individuals	College/University Students	2,595	85,635
	Secondary Teachers	3,749	123,717
	Counselors	390	12,870
	Local Administrators	457	15,081
	State Administrators	147	4,851
	University Faculty	100	3,300
	Total	7,438	244,455

*The population estimates may be somewhat high since one-third of the 3 percent sample is comprised of individuals who have had a high degree of involvement with the National Center.

interviewed concerning their involvement in National Academy workshops (table 10).

Usefulness of Conference Information

The information gained by participants seemed to be used for either inservice of teachers or self-study as indicated by the majority of respondents. Only four workshop participants (21 percent) who were interviewed said they had never used this information.

Two-thirds of the participants interviewed thought the information was extremely helpful to them. Participants were particularly pleased with presentations. They explained that "the topics were excellent," "presenters were very well qualified," and "the information was practical." Another aspect of the workshops, which were described positively by almost all the respondents, was information sharing and discussion activities.

Specific Examples of Use of Conference Information

- Following the Pre-AVA workshop in Anaheim, California in 1979, a local coordinator of vocational services for the handicapped used the information for inservice of fifteen to twenty vocational teachers. The inservice topic was "Why programs need adaptation?"
- A coordinator for special needs in the state education agency in Kentucky had used the workshop information in inservice activities. At least thirty state consultants were involved in these activities.
- A vice-president of a community-based organization in Phoenix, Arizona had attended the Pre-AVA workshop in New Orleans. She explained that she wanted to learn about special needs in order to update her skills and keep on top of the field. Her organization was involved in designing new products and working directly with customers who served the handicapped.
- A director of special education in a local school district in Utah had attended the National Academy workshop in Salt Lake City. The director said he had attended the workshop to attain more background in competency-based vocational programs for handicapped learners. This director planned to use the information when developing the vocational program for the school. He had already actively shared the information from the conference and visited other competency-based programs.

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TABLE 10

PARTICIPATION IN NATIONAL ACADEMY CONFERENCES
(N = 19 Participants)

	Percentage of Participants
Traveling seminar on Vocational Education for the Handicapped, Minneapolis, MN (10/22-25/79)	5
Pre-AVA Workshop on Handicapped Populations, Anaheim, CA (11-29-30/79)	16
Workshop on Vocational Education for the Handicapped, Minneapolis, MN (4/15-17/80)	11
Workshop on Vocational Education for the Handicapped, Philadelphia, PA (6/24-25/80)	5
Study Tour on Vocational Education for the Handicapped and Disadvantaged Populations, Minneapolis, MN (10/27-30/80)	26
Pre-AVA Workshop on Successful Programming for Handicapped Students, New Orleans, LA (12/3-4/80)	16
Workshop on Successful Programming for Handicapped Students, Salt Lake City, UT (4/14-15/81)	21

Effects of National Center Resources and Conferences

A major focus of the telephone interviews was to determine the effects of National Center resources or National Academy conferences on vocational programs for handicapped learners. Several important effects were identified even though about one-half of the professionals explained that it would be too difficult to identify the effects of the National Center's work. Effects reported in this section were reported by the remaining half of the respondents and have been grouped as major, moderate, and minor based on the number of respondents who identified the outcome.

Major Effects

Strengthened the commitment of professionals toward serving handicapped learners. All of the professionals interviewed had a great deal of interest and concern for educating handicapped learners. Of approximately fifty respondents who described effects, about one-half said that the National Center's work had strengthened their commitment to educating handicapped learners. Depending upon the respondent's role, they discussed stronger commitment to such activities as developing vocational programs that serve the handicapped, increasing focus on handicapped populations for the preservice and inservice of teachers, or increasing support for guidance and counseling. One respondent explained, "We were looking for resources to reaffirm our commitment to career guidance for handicapped learners. We compared the National Center's work to some of the other things we'd found. The National Center has really been helpful."

An administrator from a local special needs program described the increased commitment of fifty-two vocational teachers since National Center resources had been used. He explained, "When we were first notified about having to teach the handicapped, people were negative. Now, no one even knows they're here. The National Center's materials have provided the primary background for our work. We've moved to programs we never thought we would be able to!"

Increased educators' understanding of handicapped learners' educational needs. Approximately twenty-five respondents believed that the National Center's work had increased their awareness of handicapped populations. Also, they had gained more knowledge of the ways handicapped individuals learn and the ways this learning process can be enhanced in vocational programs. In many cases, respondents explained that when they shared resources with other administrators, teachers, and university students, they too were able to gain better understanding of the needs of handicapped populations.

Made professionals aware of the current issues and trends in providing vocational education for handicapped learners. About twenty respondents felt that the National Center's work had made an important contribution by identifying important topical issues, trends, or problems in the field. The National Center helped these respondents by providing up-to-date information that could be used when planning or making decisions concerning handicapped learners. One respondent discussed searching for current information on guidance of the handicapped but failing to locate the resources in other national or state organizations. This respondent found the information from the National Center to provide a comprehensive and thorough background in career guidance. Several National Academy participants described similar situations when learning about vocational assessment or competency-based programs for handicapped individuals.

Moderate Effects

Motivated teachers to continue learning about the educational needs of handicapped learners. In many cases National Center resources were used in inservice activities with secondary teachers. These teachers typically had very little knowledge of handicapped learners' needs. However, fifteen respondents said that after introducing National Center resources to teachers, they gained more interest in learning about handicapped populations and continued to pursue information in this area. Bibliographies and reference lists contained within resources were of particular assistance to teachers. It appeared that teachers who used National Center resources were motivated to learn more about handicapped learners than they probably would have been otherwise.

Stimulated development of a greater variety of services in secondary programs for handicapped learners. Ten respondents discussed the ways the National Center's resources and workshops had affected their vocational programs for handicapped learners. Resources focusing on exemplary programs, guidance and counseling, placement, career counseling, instructional support strategies, and administrative policy tended to stimulate an increase in these types of services in secondary programs. One respondent explained, "the resources made me more informed, which enabled me to provide better services for students." Another respondent added, "The materials opened my eyes to the additional resources and ways of doing things and obtaining success."

Initiated changes in the instructional strategies used with handicapped learners in the vocational classroom. Seven vocational administrators and program directors discussed the changes they had seen in instruction, which improved education for handicapped students. One vocational director was quite enthusiastic about the changes he had observed, "Handicapped students have been more successful. We've persuaded teachers that students can make it in their classrooms. The pace is slower and now that instruction and grading can be monitored--students can be more successful."

A few programs had made changes in curriculum based on National Center work. This was particularly evident for respondents who had participated in National Academy workshops. One participant of the workshop in Utah in April 1981 described initiating competency-based curriculum ideas as soon as he returned from the workshop. He had actively followed up programs and utilized this information to make changes in instruction.

One special needs coordinator explained that after obtaining resources and attending conferences, the changes in the program were quite evident. She explained, "We were able to get successful completion for 20 percent more handicapped students this year than in the past." The increased success of students in the program was indicated by the way handicapped learners attitudes had changed.

Increased undergraduate vocational students knowledge about teaching handicapped learners. At least five vocational teacher educators described the way National Center resources had helped undergraduate students learn about handicapped populations. A teacher educator in New Hampshire found that National Center resources were particularly useful when teaching about federal legislation. Another educator in Oregon found undergraduates' knowledge of handicapped individuals increased five points on a twelve point scale from pretest to posttest after using National Center materials.

Minor Effects

Stimulated cooperation between vocational and special educators. Three professionals described ways resources and/or workshops had initiated linkages between educational and service areas to benefit the handicapped. One vocational director explained, "I'm beginning to understand the relationship between counselors and vocational teachers better." Another state consultant had attended a National Academy workshop and learned of the importance of linking service areas. He explained, "after the conference we were more active with networking with vocational rehabilitation." He believed the workshop had made a vital contribution in encouraging the linkage between CETA and vocational rehabilitation in Oregon.

Increased understanding of the IEP and the ways to develop them. The IEP was addressed in several of the National Center's resources and discussed frequently at workshops. Even though the IEP was being developed by teachers and administrators in the field, confusion existed about its purpose and benefits. At least three respondents explained that the National Center's resources had made an important contribution by helping vocational teachers understand the IEP. One state special needs consultant in Pennsylvania had used National Center resources on IEPs in a workshop with vocational teachers. After conducting the workshop the consultant said, "I believe that there had been a change. The teachers who have seen the IEP materials are expressing ideas that indicate they understand IEPs better."

IV. IMPACT OF STATE DEVELOPED R&D ON HANDICAPPED LEARNERS

A great variety of state developed R&D products exist for the benefit of handicapped learners. Some are designed to influence the understanding of teachers whereas others relate directly to use by students. The first section of this chapter describes a sample of Educational Resource Information Center (ERIC) products and a probable population of products disseminated during Fiscal Year 1979 or 1980 or later. The second section on product use discusses the distribution and use of four state developed products during the spring of 1981. These products were studied with a survey questionnaire sent through the mail.

Distribution of State Developed Products

The distribution of products from state-developed research and development projects can be estimated from the number of projects funded with federally-financed program improvement dollars (research, exemplary, and curriculum development). For Fiscal Years 1979 and 1980, there were 140 projects funded with an emphasis on education for persons with handicaps and disabilities (hearing, mental, visual, and other kinds of impairments). Assuming one product per project, approximately 52,080 copies of special education products have been disseminated to educators of handicapped learners during this two-year period.

The number of copies disseminated is based on the average of two samples taken from a study of Educational Resource Information Center (ERIC) products during FY 79 and FY 80. The figure of 52,080 is a conservative estimate of the number of people serve because (1) many times a product is used by more than one person, (2) these distribution numbers do not consider second, third, and so on printings; (3) not all project outputs are submitted to ERIC, and (4) not all products submitted are accepted. Table 11 gives the number of products/projects for the sample and estimated population for this two-year period.

TABLE 11

NUMBER OF PRODUCTS/PROJECTS FOCUSING ON HANDICAPPED LEARNERS

Statistic	Sample*		Population Estimate**
	FY 79	FY 80	
Projects with a focus on handicapped learners	65	34	140
Copies of products distributed from these projects	25,303	12,090	52,080

*Number of ERIC-accepted products with special needs populations as a content description.

**The number of products distributed assume one product produced by each project.

Findings from the distribution study of ERIC-accepted research and development products showed the distribution of special needs products to be highly dependent on the type of product. For example, learner materials were sent to students, and instructional guides were sent primarily to teachers with an information copy to administrators. Table 12 reflects this variability.

TABLE 12

DISTRIBUTION OF PRODUCTS/COPIES TO POTENTIAL USERS

	FY 79		FY 80	
	Products*	Copies	Products	Copies
Students	46	10,868	18	175
Teachers	49	4,617	25	3,963
Administrators	62	5,092	31	2,849

*Many products were distributed to students, teachers, and administrators.

The total number of product copies distributed as noted in table 11 is greater than the number of copies identified in table 12 because some respondents were not able to estimate the number of copies distributed to selected audiences.

Use of State Developed Products

Each year, state Research Coordinating Units fund projects to upgrade practice in vocational education. The specific purpose of this portion of the study was to document the use of state-developed research and development products on the vocational education of handicapped learners. To do this, a questionnaire was devised to measure the use of the products. The result of this mail survey are contained in this section of the report. Additionally, case studies of the effects of products in four states were conducted. The case studies are reported in the next chapter.

Potential products for inclusion in this impact assessment were reviewed by staff at the National Center for Research in Vocational Education. Sources of products for this review were (1) products nominated for dissemination by the National Center's Dissemination and Utilization Program, (2) products included in the Education Resources Information Center (ERIC) and (3) products produced/disseminated for the handicapped by research centers. Criteria for selection included the following:

1. The product had been distributed since January 1, 1978.

2. The primary focus was on the vocational education of handicapped learners.

3. Development costs were authorized by Public Law 90-576 or Public Law 94-482 and managed through a state-administered project.

The products selected represented a range of inquiries into the improvement of vocational education for handicapped learners. Two teacher-developed products were studied in Maryland. They were The Everyday Skills Program developed in Prince George's County Public Schools and Employability Skills for Special Needs Students developed in Carroll County Public Schools. These very practical teacher guides were disseminated primarily within the counties where they were developed.

The third product selected was Vocational Education-Special Education Project (VESEP) materials developed at Central Michigan University in cooperation with the Michigan Department of Education. This product, which included eleven Cluster Guides in eleven separate occupational areas, was designed to increase the cooperation between special education and vocational education. It provided a competency-based framework for teaching specific skills to handicapped learners. Virtually all of the school districts in Michigan, both intermediate and local, received a set of these materials. Secondary use of this product in the state of Illinois was also studied.

The fourth state-developed product selected was Vocational Education: Teaching the Handicapped in Regular Classes. This product was developed in California by the American Institute for Research in cooperation with the California State Department of Education. This teacher education resource guide was distributed nationwide by the Council for Exceptional Children.

Taken collectively, these four exemplary products represented a diverse sample of research-based information prepared for use by teachers of handicapped learners in vocational classes. They included teacher-developed curriculum guides, a university-developed framework for developing curriculum, and a resource book intended to improve teachers' understanding and attitudes towards handicapped learners.

The survey questionnaire assessed the number of persons actually using the product, their tendency to share it with others, and their impressions of product quality. Mailing lists of users were obtained from the developers or distributors of the product. In some cases the numbers of users were quite extensive. For example, 235 users of VESEP were contacted representing a 20 percent sample of the available population. The available population of users for the teacher-developed products was much lower at 135 persons. The questionnaires were sent to recipients of the product. In many cases teachers were the primary users, however, vocational education directors and other administrators had ordered the publications.

The respondent population for this survey included recipients of the four products. The intent of the survey was to document the use of vocational education R&D products by teachers of handicapped learners. The distribution lists of product recipients revealed a variety of roles and organizations. Administrators and supervisors of vocational or special education departments in local, intermediate, or county educational agencies were the largest single identifiable group of product users among respondents to the survey questionnaire. The next largest number of persons in roles were curriculum specialists, evaluators, and product developers. Most of these people were in research centers, four-year universities, or state educational agencies. The pattern of recipient role distribution was approximately the same for each of the four products studied.

Names and addresses of recipients were obtained from product developers and distributors. Distribution records between January 1979 and December 1980 were examined for complete and current addresses. In some cases the products were distributed through district offices and/or through contact persons at school sites. The names on the distribution list were used as recipients for the survey questionnaire. A reminder postcard and a second mailing of questionnaires to nonrespondents added to the response rate.

Table 13 contains the response rates for the four products studied. The rates are relatively low, ranging from 19 percent for one product to 56 percent for another. The low response rate was aggrevated by the following conditions:

1. Complementary copies of the product were sent to county supervisors with limited follow-up on how to use them.

2. The questionnaires were mailed in May, 1981, late in the school year.

3. Some of the addresses were either inaccurate or the persons had moved.

4. Some people did not remember receiving the product, although it had been distributed within the last two years.

In the case of the VESEP materials, two additional products had been developed based on the concepts in VESEP. Some respondents may have been confused about the product being investigated. A 10 percent sample of nonrespondents was contacted by telephone to

TABLE 13

USEABLE QUESTIONNAIRES RETURNED BY INDIVIDUAL PRODUCT

Product Title	Respondent Population	Number of Questionnaires Returned	Useable Questionnaire Returned	
			Number	Percentage
Employability Skills for Special Needs Students	135	37	25	19%
The Everyday Skills Program	133	86	75	56%
Vocational Education/ Special Education Project (VESEP I)	235	115	56	24%
Vocational Education: Teaching the Handicapped in Regular Classes	157	83	68	43%
Total	660	321	224	---

determine their reasons for not responding. About half were on vacation; the others had moved to another position, were retired, or otherwise not available to respond to the questionnaire.

Development of the Questionnaire

The survey questionnaire was developed at the National Center and pilot tested with teachers and others similar to persons who had received the products being investigated. The questionnaire was similar in format to product use questionnaires administered in 1980.* Most questions contained preconstructed responses; however, some provided an opportunity for the respondent to add information. The Appendix contains a copy of the questionnaire.

Results

The results indicate that most persons who remember receiving a copy of the product did, in fact, use it. Over 90 percent read the document and 80 percent shared it with others. Table 14 shows the percentage of persons who plan to use it. Approximately two-thirds of the users were able to implement changes in their program as a result of using the research products. Although 200 persons shared the product with others, less than half of this number could actually identify the number of students who used it. Some products, such as Vocational Education: Teaching the Handicapped in Regular Classes, were designed primarily for teachers to use in constructing curriculum activities for children. This accounts for the relatively higher use by teachers than by students for this product as noted in table 15. This table shows a range of use for each product of from three administrators using Employability Skills for Special Needs Students product to 67.3 students using The Everyday Skills Program. The reader should keep in mind that Carroll County, where the Employability Skills document was distributed primarily, is a much smaller county than Prince George's (P.G.) County, where The Everyday Skills Program was developed and implemented. Thus, the numbers of people influenced by the program in P.G. County would be expected to be greater than in Carroll County. Most recipients valued the products as a model for special education program improvement. These publications addressed the vocational education of handicapped youth through the special education instructional program. The special education teacher was the primary user for these products. It

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*The results of the 1980 survey were reported in a document entitled "Research and Development Product Utilization in Vocational Education," produced by the National Center in December, 1980.

TABLE 14

UTILIZATION OF PRODUCTS ON SITE

How the Products Were Used	Number of Respondents[b]	Percentage of Persons Responding[a]		
		Yes, They are Using the Product	No, But They Plan to use It	No
Read/Studied	206	90.3	4.4	3.4
Referenced or Quoted	200	76.5	7.0	13.0
Shared with Others	201	80.1	8.5	9.5
Filed	201	70.1	3.0	8.5
Implemented	196	61.7	12.2	13.8
Adapted	199	70.9	11.6	10.1

[a] Percentages do not add to 100 because some respondents indicated the product was not appropriate for their use.

[b] Some respondents skipped items.

Note: The percentages refer to line items only, thus, 90.3 percent of 206 means 186 people read the product.

Table 15

SECONDARY USERS OF STATE DEVELOPED PRODUCTS

Product	Students	Teachers	Administrators/ Counselors	Other	Total
Employability Skills for Special Needs Students	586	56	30	154	826
The Everyday Skills Program	2,983	806	390	632	4,811
Vocational Education/ Special Education Project	1,274	435	240	276	2,225
Vocational Education: Teaching the Handicapped in Regular Classes	600	816	212	122	1,750
Total	5,443	2,113	872	1,184	9,612

was not surprising, therefore, to find (1) the identification of resources listed in the booklets, (2) the modification of materials for handicapped learners, and (3) the development of Individualized Educational Programs (IEPs), listed as the top benefits of using these products. Reducing dropout rates of handicapped learners, gaining access to special services, discipline, and linking with community-based organizations were rated as least beneficial outcomes from using the products. Many of the low-rated benefits required actions from people other than the primary user. Approximately two-thirds of the recipients rated the products as some or great benefit on nearly all of the items on the questionnaire. More information on benefits of product use may be found in table 16.

In summary, four state developed products were received by 321 respondents and shared with 9,612 secondary users primary students (58 percent) and teachers (22 percent). Special education teachers tended to received them from supervisors who were participating in countywide implementation activities. Over 90 percent of the respondents had used the product in some way but only 60 percent had actually implemented them. The top four perceived benefits to handicapped learners from using the products were: (1) providing a program model; (2) identifying resources; (3) modifying materials, equipment, or facilities; and (4) developing IEPs.

TABLE 16

PERCEIVED BENEFITS OF PRODUCT USE

Perceived Benefits	Number of Respondents	Mean Rating[a]	Percentage of Persons Responding[b]		
			No Benefit	Some Benefit	Great Benefit
Provide a model for special education program development	182	2.4	6.6	45.1	42.3
Identify resources for handicapped learners	182	2.4	5.5	51.1	39.0
Modify/adapt materials, equipment, or facilities for handicapped learners	179	2.3	5.6	58.7	30.2
Develop IEP's for handicapped learners	182	2.3	11.5	44.5	36.3
Help handicapped learners become more self-sufficient	179	2.2	1.7	63.1	20.7
Assess handicapped learners	180	2.2	7.2	53.3	26.1
Communicate with handicapped learners	181	2.2	6.6	60.8	21.5

[a] The mean rating is based on 1 = no benefit, 2 = some benefit, and 3 = great benefit.

[b] The percentages do not add to 100 because the "not applicable" responses were ommitted.

TABLE 16 (Continued)

Perceived Benefits	Number of Respondents	Mean Rating[a]	Percentage of Persons Responding[b]		
			No Benefit	Some Benefit	Great Benefit
Help handicapped learners develop employability skills	180	2.2	5.0	62.2	27.2
Monitor the progress of handicapped learners	179	2.2	6.7	60.9	24.6
Improve handicapped learners' self-esteem	177	2.2	5.6	61.6	23.7
Overcome biases against handicapped learners	178	2.1	7.3	60.7	12.9
Improve inservice of teachers	179	2.1	14.5	47.5	19.6
Use time more efficiently	175	2.1	12.6	62.3	17.7
Provide a least-restrictive environment for handicapped learners	179	2.1	10.6	54.7	17.9
Evaluate program effectiveness	181	2.1	11.6	55.8	21.5
Mainstream handicapped learners	179	2.0	13.4	57.5	13.4
Place more handicapped learners on the job	177	2.0	19.2	45.8	19.8

TABLE 16 (Continued)

Perceived Benefits	Number of Respondents	Mean Rating[a]	Percentage of Persons Responding[b]		
			No Benefit	Some Benefit	Great Benefit
Understand the legislation (P.L. 94-482, 94-142) affecting handicapped learners	174	2.0	13.8	43.7	16.7
Establish communication channels with other educational organizations	180	1.9	17.2	49.4	12.8
Make the classroom safer for handicapped learners	178	1.9	21.9	46.6	10.1
Promote peer acceptance of handicapped learners	178	1.9	17.4	53.9	10.1
Reduce dropout rate of handicapped learners	178	1.8	22.5	46.1	8.4
Access special services such as guidance and counseling	180	1.8	18.9	50.0	6.1
Deal more positively with discipline problems	175	1.8	24.6	36.9	8.0
Establish linkages with community-based organizations	179	1.8	24.0	42.5	9.5

V. CASE STUDIES OF RESEARCH UTILIZATION

Case studies of exemplary use of research-based products for handicapped learners were conducted in seven locations. The seven case study sites were:

Case One: Charlotte, North Carolina

Case Two: Minneapolis, Minnesota

Case Three: Milwaukee, Wisconsin

Case Four: Maryland (Carroll County and Prince George's County)

Case Five: Michigan (Macomb County)

Case Six: Illinois (Canton and Lewistown)

Case Seven: Florida (Broward County)

In the first three locations, products from the National Center for Research in Vocational Education were studied. In the last four locations, state developed products were studied.

The purpose of the case studies was to gain a deeper view into how research and development resources were used in some diverse local settings. Of special interest was describing the ways research and development had influenced local practice. These case studies should add to existing knowledge of how change takes place as well as document the effects of research and development product use on vocational education programs in the seven sites studied.

Case study sites were selected where (1) extensive use of the product being investigated was evident and (2) diverse modes of use had been identified. Case study procedures were used to describe the use and effects of the research based products. The data was collected on site through in-depth interviews and observation. Interviews with the product users drew on naturalistic inquiry techniques to elicit information about their attitudes and actions in implementing the information in the products. Questions were worded in such a way as to identify perceived changes that had taken place as a result of using the product. This methodology compliments the more structured survey questionnaire and telephone interviews which were also used as a means of assessing product use and impact in this study.

Across the three National Center sites, interviews were conducted with fifty-two individuals, including thirty-four local school personnel, four students, five district office staff, three state staff, and four university personnel. Interviews were conducted in person through spending two to four days on site. This practice allowed the opportunity to observe vocational education programs for handicapped learners in four schools.

For the state developed products, a total of 240 persons were interviewed including students, teachers, administrators, parents, and employers. Sixty-eight were interviewed in Macomb County, Michigan and sixty-eight in Prince George's County, Maryland. Sixty-six were interviewed in Carroll County, Maryland and twenty in Broward County, Florida. Eighteen persons were interviewed in Illinois. Unlike the other case studies, the Illinois interview focused on adaptations of the Michigan developed VESEP materials and linkages in the network of demonstration centers established by the Illinois State Board of Education.

This chapter presents a synopsis of the findings from the seven case studies. For each site, the background, use, and effects of one or more research and development product is described.

CASE ONE: Charlotte, North Carolina

Background

In November 1977, the Charlotte-Mecklenburg School District in Charlotte, North Carolina began investigating ways to improve its capacity to provide individualized vocational instruction to 537 educable mentally retarded and 386 learning disabled students who were attending the systems ten high schools. In an attempt to fully implement P.L. 94-142, the school system established a procedure for mainstreaming handicapped students into regular vocational classes.

The mainstreaming procedure created another need--the need to provide inservice for vocational educators to help them develop the competence and self-confidence to deal with handicapped students. In the summer of 1980, the school was awarded a $57,000 grant to be spent over a three-year period at $19,000 each year. The purpose of the grant from the Bureau of Education for the Handicapped was to provide a series of inservice seminars for vocational educators.

In the first year of the grant, 1980-81, a diverse series of seventeen seminars was planned for vocational educators. The seminars covered the issues of: legislation and legal issues, mental handicaps, emotional handicaps, learning disabilities, using school and community resources, working with parents, individualizing instruction, reviewing materials and programs, evaluating students, developing Individualized Education Programs (IEPs), and modifying the curriculum. In developing this series of seminars, the project director, Nan Coleman, relied heavily on nine different special needs publications from the National Center for Research in Vocational Education.

A total of fifty-four vocational educators from the school district volunteered to attend the seminar series. Inservice participants included educators from all the vocational education service areas as well as special educators.

On May 27, 1981 three different schools were visited to find out more about how the inservice had affected the vocational instruction provided to handicapped students. The first school, Metro Center, was for trainable mentally retarded students. The second school, Garringer High School, housed approximately 2700 students with 98 handicapped students. About 60 of these handicapped students were enrolled in vocational education. The school had a fulltime vocational education support teacher for special needs. The third school, East Mecklenburg High School, also had about 2700 students including 135 handicapped students. Of these, 70 students were enrolled in vocational education. There were several self-contained classrooms for learning disabled and educationally mentally handicapped students. Across these three schools, a total of thirteen teachers and five district office staff were interviewed.

Use of Special Needs Resources

Use by inservice instructors. The workshop planners used the publications from the National Center in three different ways. First, all nine publications were used as resources for planning the seventeen workshop sessions. Second, fifty-five copies of the three publications were purchased for distribution to all workshop participants. Third, copies of all nine publications were placed in the curriculum library as resource documents for the teachers to use. Teachers were periodically given assignments using the publications.

Use by teachers enrolled in the inservice. According to participants, the following were the most useful aspects of the seventeen inservice workshops on serving the handicapped in vocational education.

- Participants Valued Learning About Local Community Resources, such as CETA and Goodwill Industries, that could be helpful in obtaining jobs for handicapped learners. As one teacher noted, "I was amazed that so much was going on for handicapped learners."

- Participants Valued Receiving Materials. Several specifically mentioned receiving catalogues for ordering teaching materials and "knowing where to get materials when I need them." (Although about half had saved and planned to use the inservice materials in the future, little use other than reading had been made of them to date.)

- Participants Were Especially Interested in IEPs. The majority felt better informed after the workshop but wanted more thorough information with step-by-step procedures and lots of examples of how to write IEP goals and objectives.

- Several Participants Mentioned Learning About the Laws and Regulations That Provide Much of the Impetus For Services to Handicapped Learners.

- Teachers were Especially Interested in Learning How to Modify Their Lesson Plans for Handicapped Learners. Although the majority valued this topic, most felt the instruction was too theoretical. Teachers wanted more information on how to put lessons into simple language and concrete steps.

- The Best Learning Experience Reported by Everyone Interviewed was Working on Individual or Team Projects to Develop a Lesson Plan or Other Tools to Use with Handicapped Students in Their Class. These projects ranged from a very basic unit on how to read a ruler through cutting and hammering wood strips of different lengths to a practical word vocabulary for technical words in an electronics course.

Effects of the Special Need Resources

The primary outcomes of the seminar series appeared to have been a more open attitude by vocational teachers toward educating the handicapped. It is important to point out that this was only the first year of the project and more extensive implementation is likely to occur in years two and three. Some specific effects reported by teachers include the following:

- Geared Instruction to Slow Learners. As an auto mechanics teacher said, "I went to the workshop because I was having trouble and I want them in my class. I have four slow learners now. A number of teachers object to it but I don't."

- Learned About Handicapping Conditions. As an electronics teacher said, "I've never had any formal special education training and I got lots of ideas. I learned to appreciate handicapped students."

- Experienced Personal Satisfaction in Helping Handicapped Students. As a graphics design teacher said, "I feel that someone has to help these students. I see a personal satisfaction in that. I think they should be in with the regular students."

However, the most positive attitudes were reflected in one of the three schools visited, Garringer High School. The teachers in Metro Center who went to the workshop already had a fair amount of experience working with handicapped learners. Most of these teachers had advanced beyond the workshop content and found many of these sessions overly simplistic. Teachers at the other school visited, East Mecklenberg High School, were resistant to mainstreaming and their attitudes seemed more cautious regarding working with handicapped students in their classes.

However, even the teachers who expressed cautious attitudes toward teaching handicapped students in their classes also expressed intense interest in learning more about how to do it effectively. These teachers were eager to learn more about developing IEPs, modifying lesson plans, and evaluating special students. The seminar series appears to have heightened their awareness of how much there is to know about working with handicapped learners and increased their concern for further learning in this area.

Summary and Conclusions

In Charlotte, North Carolina, use of nine National Center publications on handicapped learners was an effective starting point for developing a seminar series for fifty-four vocational teachers on serving handicapped vocational education students. The series of seventeen seminars was clearly an introductory course and made the most headway in improving attitudes. The seminar also helped teachers feel more informed about the terms and issues involving teaching handicapped learners and increased their concern for more in-depth learning. Although a variety of different resource materials and resource people were used in planning and giving the seminars, the publications from the National Center provided a unique contribution.

Case Two: Minneapolis, Minnesota

Background

In Minnesota vocational education is based on a model developed in the early 1970s, which specifies supportive services for handicapped persons in vocational programs. In order to achieve this goal a network of support services, tutoring, and remedial education was established in the schools in order to support the regular classroom teacher. In this type of environment, learners with all types of handicapping conditions can be served. As explained by Hal Birkland, manager of the Special Needs Programs, "When we were developing the model, our goal was to provide successes for handicapped and disadvantaged learners in any way possible."

This model has provided many successes for handicapped learners in Minnesota. An outstanding program, the SERVE program at 916 Vocational Technical Institute at White Bear Lake, has based its instruction of secondary and postsecondary students on this model. By providing regular classroom instruction along with tutoring at 916, handicapped learners are able to select from sixty vocational programs.

Based on this high degree of involvement with the National Center over a period of the past three years, three sites in Minnesota were chosen for this case study. The state education department has received resources and disseminated them through the Minnesota Curriculum Services Center as well as through statewide inservice activities with vocational teachers. Two to three workshops are held annually across the state for vocational teachers and support staff to address current trends and needs. The SERVE program has worked with the National Center over the past three years by providing facilities and expertise for three National Academy workshops. A total of eighteen National Center special needs resources had been ordered by staff at SERVE and teacher educators at the University of Minnesota. On October 6-9, 1981 the state education department, the 916 Vocational Institute, and the University of Minnesota were visited. During this four day period, three state administrators; ten teachers, support staff, curriculum developers, and administrators at 916; and four faculty at the university were interviewed.

The first day of the visit was spent at the state department in order to gain a better understanding of state policies and procedures. Minnesota has a total of thirty-three Area Vocational Technical Institutes. However, only three of them are similar to 916 in that both secondary and postsecondary learners are taught in the same facility. Fifty-four secondary vocational centers are located throughout the state.

The second and third days for the visit were spent at the 916 Vocational Institute. The vocational programs, facilities, and staff at 916 were quite impressive. A comprehensive vocational program, taught by 167 vocational instructors, was available to a total of 2,700 secondary and postsecondary students. Jo Reed-Taylor, director of SERVE, supervised twenty-one instructors who tutored, evaluated, or placed handicapped students inside or outside of the regular classroom or facilitated the development of IEPs. These supplemental staff members were currently working with approximately 143 high school students and 360 post high school students.

At the University of Minnesota, which was visited on the last day, instruction on the handicapped was provided to approximately sixty vocational undergraduate students during the previous year. Four graduate research associates had been employed during the previous year to assist in research activities. In addition, University personnel were actively conducting research in the special needs area and providing instruction for teachers in the field.

Use of National Center's Work in Special Needs

Personnel at the state department of education and the Minnesota Curriculum Services Center were not using the National Center resources directly but actively disseminating them throughout the state for use by teachers at the local level. Hal Birkland, at the state education department, explained that a majority of the National Center's resources had been reviewed by staff in his office and shared through inservice activites. The director of the Minnesota Curriculum Services Center explained that the National Center resources were disseminated when they were received. Yet at times he explained that he had difficulty obtaining resources that were first sent to the state education department from the National Center. However, at least six of the National Center's resources were currently being disseminated by the state curriculum services center. Direct use of the resources was occurring at the 916 Vocational Institute and the University of Minnesota. A discussion of use by teachers and teacher educators follows:

- Inservice of Vocational and Special Education Teachers. Five special education instructors at 916 had used seven of the National Center's resources to learn more about teaching handicapped learners in vocational programs. In addition, the three National Academy workshops had served as a learning experience for most of the SERVE staff who had participated in them. Inservice activities with vocational teachers were frequently conducted within the school by the support staff at SERVE. Five National Center resources had been used to teach vocational teachers about handicapped populations and the strategies needed for instructing learners.

- Development of IEPs. The IEP facilitator had used National Center IEP materials with at least fifty-five special education teachers and four counselors in sixteen local high schools in the school district. These materials had been shared informally with teachers, however they were encouraged to adapt the principles of IEP development discussed in National Center materials. Even though the IEP materials were valued due to their informative nature, changes in IEPs had been slow to evolve.

- Development of Competency-Based Curriculum. The entire vocational program at the 916 Vocational Institute was competency-based. Developing this type of curriculum required a full-time group of five curriculum developers to work directly with vocational teachers. The National Center has been instrumental in developing competency-based task lists and providing 916 staff with these materials.

- Professional Development of University Faculty. About twelve of the National Center's resources provided faculty with additional background for educating the handicapped. At least five of the National Center's resources provided background for teaching introductory undergraduate classes. During the past year at least sixty undergraduate students had been enrolled in one of three vocational special needs courses. In addition, one of the National Academy workshops at 916 had been attended by a faculty member.

- Inservice of Special Education and Vocational Teachers in the Field. Dr. Jim Brown, Vocational Special Needs Education, had used one National Center resource focusing on IEPs quite extensively with teachers. At least 100 teachers had been enrolled in a summer workshop where IEPs were presented. Also, Dr. Brown had worked with the vocational evaluator at 916 to co-teach a class at the University at least four times previously. This class provided a means of certifying teachers in the field. One of the National Center's resources containing a chapter on vocational assessment was used for this class.

- Conducting Basic Research. During Dr. Brown's four years of teaching and research at the University of Minnesota he has maintained a commitment to basic research in special needs. Projects under his direction are Articulating secondary and postsecondary vocational education programs, Evaluating special needs programs and Inservicing vocational education of special needs populations. Research in these areas at the National Center had provided momentum for the special needs research at the University of Minnesota.

Effects of National Center's Work in Special Needs

Effects of the National Center's resources and workshops were determined through interviews with the eighteen educators on site. Effects were identified at the local program level for vocational and special educators. Effects at the University of Minnesota were noted on research, educators, and students enrolled in graduate and undergraduate programs. Summarized below are the major effects identified on site:

- Better Understanding by Vocational Teachers Toward the Ways to Teach Handicapped Learners. The support staff of SERVE explained that vocational teachers seemed to gain a greater understanding of handicapped learners and their needs when using some of the National Center materials. In addition to materials addressing handicapping conditions, the competency-based curriculum at 916 had made vocational teachers aware of ways to individualize instruction. The National Center's resources had been particularly useful at 916.

- SERVE Staff Became More Aware of Vocational Teachers Needs. Most of the staff working in SERVE had a background in special education. Receiving and using resources from the National Center provided another perspective for these educators. Support staff began to evaluate which resources would be useful for vocational teachers. They began thinking about vocational teachers' inexperience when working with the handicapped. A helping relationship due to this increased understanding began to develop.

- The Vocational Component of IEPs was Being Developed and Standardized Throughout White Bear Lake School District. The IEP Facilitator at 916 explained the ways in which National Center resources had helped special education personnel write vocational skills in IEPs. He said, "Many of the schools are still in the stone age when it comes to including the vocational part on an IEP."

However, giving teachers direction with the National Center resources had encouraged the development of vocational sections for IEPs.

- Competency-based Curricula had been Developed at 916 for All Sixty Vocational Programs. The National Center has provided task listings for curriculum development in many of 916's vocational areas. Educators at 916 believe that the competency-based vocational program had provided higher quality education for all learners including handicapped students.

- Stimulates Basic Research in the Special Needs Field. Researchers at the University of Minnesota believed that National Center research had provided leadership for basic research in vocational education for special needs learners.

- National Academy Workshops Prompted SERVE to Continue Improving Education for Handicapped Learners at 916. SERVE has become highly visable across the country, modeling vocational programming for handicapped learners. National Academy workshops have enabled staff at 916 to share practices, ideas, and successes with others in the field. Technical assistance has been provided by 916 staff in programs in several other states.

Summary and Conclusions

Eighteen National Center special needs resources had been used at the 916 Vocational Institute, the University of Minnesota, and by department of education personnel at the state level. SERVE staff at 916 had been instrumental in conducting three conferences for the National Academy as well. The resources had been used by staff in SERVE for their own professional development, as inservice for vocational teachers, to facilitate writing IEPs in the entire school district and to develop competency-based vocational curricula. The National Center resources had been used by personnel at the University of Minnesota in preservice and inservice activities.

Case Three: Milwaukee, Wisconsin

Background

The Alliance for Career and Vocational Education is a consortium of school districts that was formed by the National Center for Research in Vocational Education during the 1973-74 school year so participating districts could pool resources to address common needs in career and vocational educaton. Through the Alliance, career exploration, awareness, and planning materials were developed for use at the elementary, junior high, and high school levels. Some of these materials have been adapted by the Alliance for use with educable mentally handicapped students. Since 1978-79, the Resource Edition program materials for the educable mentally handicapped have been used in 149 classrooms by 149 teachers with 2,720 students.

The Milwaukee (Wisconsin) Public School System has been one of the school districts that has had extensive Alliance involvement since 1974. Milwaukee is a large urban school district in a heavily industrialized setting that employs 6,000 teachers and administrators for a student population of 91,943. Milwaukee's special education program is a strong one, serving 5,700 students with 670 special education teachers. The handicapped students in this case were educable mentally handicapped, learning disabled, and emotionally disturbed. During the 1979-80, Milwaukee's special education program was further expanded by the opening of a vocational education center that currently serves only special education junior high school students.

In November 1979, a team of two evaluators spent three days in Milwaukee to study the use and effects of the Alliance materials for handicapped students involved in the program. A total of twenty individuals were interviewed: two administrators, twelve teachers or counselors, and four students. Although the student group is not large, a two-and-one-half hour in-depth group interview was conducted with these students. The students had severe mental disabilities and had difficulty organizing and expressing their thoughts. Current special education teachers, as well as exceptional education teachers who had worked with the group during the previous three years, were present during the interviews. The result was an in-depth look at several students who had intense involvement with the Alliance Resource Edition programs.

Use of the Alliance Materials with Handicapped Learners

The Milwaukee District began its Alliance participation in 1974 during the initial formation of the consortium and has invested approximately $175,000 in contracts with the Alliance for materials and services over a span of seven years. It has, during that time, been involved in pilot and field testing of Alliance materials and has used these materials as a springboard for the development of an extensive system-wide career education program.

In 1978, the Alliance was broadened to encompass the district's handicapped students. Field testing of the Alliance Resource Edition career education programs for the educable mentally handicapped during the 1978-79 school year constituted the formal beginnings of an Exceptional Education Career Education program. During the 1978-79, the materials were used in eight junior high/middle schools in eight special education classrooms. During 1979-80, uses of the Alliance Resource Edition programs were expanded to include all of the district's eighteen junior high/middle schools.

Effects of the Alliance Materials on Handicapped Learners

Based on in-depth interviews, nine primary effects of involvement in the Alliance and use of the materials were identified. Those interviewed reported that Alliance participation had the following four effects on the school district: (1) provided a core program that assisted in extending the career education program system-wide; (2) facilitated financial support for career education from the school district including the creation of one permanent position; (3) added credibility to the career education program through providing materials from a university; and (4) helped initiate a career education program for handicapped students for the first time.

Those interviewed reported that Alliance participation had the following three effects on teachers and administrators: (1) increased special education teachers' awareness, knowledge, and commitment to career education; (2) stimulated classroom teachers to develop their own innovations modeled after the Alliance concepts and materials; and (3) introduced administrators to pilot/field testing procedures used in developing Alliance career education materials.

Those interviewed reported that Alliance participation had the following two effects on handicapped students: (1) gave handicapped students a realitybased awareness of career possibilities in the world of work and (2) increased handicapped students' awareness of the work habits/employability skills needed to maintain a job.

Summary and Conclusions

Materials to help handicapped learners explore and plan careers from the National Center were used by 560 students in Milwaukee, Wisconsin. Use of these materials served as a springboard for a more extensive career and program for handicapped students. Both teachers and students gained awareness of career options and related work skills. There is also evidence that the materials and technical assistance from the National Center stimulated additional classroom and district innovation and assisted in securing local funds.

Case Four: Maryland

Background

Two exemplary curriculum guides developed by teachers in Maryland were selected for assessment. The Everyday Skills Program was developed in Prince George's County Public Schools (P.G. County), and the Employability Skills for Special Needs Students was developed in Carroll County Public Schools. The two publications included units on communications, finances, interpersonal relationships, and other areas necessary to the development of skills and knowledge leading to employment. Four high school were visited to study the use and effects of these research and development products: Bladensberg Senior High School and Crossland High School in P.G. County; and North Carroll and Westminister in Carroll County.

Maryland requires all children to receive a free public education including handicapped children ages 0 through 20. Children are to be educated according to their needs and in a setting that provides as much contact as appropriate with their nonhandicapped peers. The Maryland Special Education Bylaw requires: (1) a statewide system for identifying children in need of special education; (2) procedures that protect the rights of children and parents; (3) a series of activities for screening, assessment, referral, and placement of handicapped students conducted by the local education agency; (4) programs for children at six levels of service, and (5) development of an individualized education program (IEP) for each handicapped child. Over 250 programs in local public schools are operating for handicapped learners in Maryland today.

The Everyday Skills Program was introduced to the special education teachers of Prince George's County as a curriculum development project. Since many special education teachers also had been involved in developing the Everyday Skills Program, they felt a sense of ownership. Typically, the guide has been included in curriculum orientation workshops for new special education teachers since its development. In Carroll County inservice education days have been held with special education teachers to update them on materials and teaching techniques. The development of a standardized course of study for handicapped students by the county supervisor of special education has resulted in uniform implementation of the curriculum guide. Teachers transferring from one school in the county to another have experienced no difficulty in teaching the same curriculum in the new location.

An important feature of the vocational program for handicapped students in P.G. County was the provision of Support Service Teams in two field sites. This pioneer concept of support service liaison for special education and vocational education is a priority in the Maryland State Plan. It offers an opportunity to reach a larger percentage of the handicapped population than ever before. A team leader and two aides provide physical, emotional, and educational support to teachers and handicapped students in mainstreamed vocational classes. The support team also assists handicapped students in the modified, segregated, cooperative placement program. They accept referrals from teachers for students who were not successful in mainstreamed classes and assist guidance counselors in enrolling these students in appropriate programs. The team provides a linkage for communication between special education teachers and teachers in regular classes.

Use of the Curriculum Guides

In Carroll County, Employability Skills was taught as a general program for handicapped students in each of the senior high schools. The students entered the modified, segregated program when they transferred from junior high or when a handicapping condition was identified. Most remained in the program while they were in high school. A few of the students, five or six, entered vocational programs conducted for half-day sessions at the county vocational-technical center during their junior and/or senior year. The others participated in cooperative work experiences in private and public businesses during their senior year.

The program for teaching vocational skills to handicapped students was much the same in P.G. County. The Everyday Skills Program was used by special education teachers to prepare students for participation in work. This was done in a modified, segregated program with the student spending part of his junior/senior years in half day work-study activities on the job or in vocational classes. Placement in jobs generated up to four credits toward high school graduation. The placement rate for these students was high--82 percent in one county and at least that high in the other. Sophomore students spent most of their time in the segregated, vocational development class except for mainstreamed experiences in art or physical education.

Across the two counties, a total of 38 teachers and 1,350 students were involved in this research and development effort in the 1980-81 school year. The handicapped student enrollment in these two county vocational programs represented approximately 10 percent of all handicapped enrollment in state vocational programs.

Very little of the information in the guides found its way into regular vocational classrooms. Vocational teachers had not seen the guide nor the special education curriculum. However, members of the Support Services Team in P.G. County assisted vocational tachers in their classrooms. Much in the same way as coordinators of placement, the Support Services Team members were able to apply principles in the guides to learning experiences for handicapped students in vocational classes.

Effects of Guide Use

The effects are discussed by themes confronting students, teachers, and programs constructed for the education of handicapped learners.

- Students Became More Employable. Most of the students interviewed wanted to leave school as soon as possible. Sophomores saw no relationship between studying in school and later benefits to self or employers. By the time they became seniors, this attitude had changed. In part, it changed because of maturation, but also it changed because of work-study assignments. Every student in the program was placed in a work-study position or a regular vocational class. This amounted to 1,350 placements in these two counties along. They became aware of demands made on the job, e.g., the need to be at work on time, to complete assignments, and to walk away from situations that are likely to draw them into a fight or confrontation.

- Improved Learner Self Esteem. One of the most important effects gained with the program was an upgrading of the learner's view of self. Vocational development teachers took the time to spell out strategies for coping with problems confronting the student at work, at home, or at school. This fostered an attitude of "we can do it together" on the part of the learner. The handicapped learners respected these special education teachers and valued their individual attention. Another contributor to improved learner self esteem was the vocational teacher of mainstream students. These interactions were supportive and ego-building. One teacher of carpentry said, "Good helpers are worth their weight in gold." This teacher was trying to communicate the worth and dignity of work.

  Supervisors were genuinely concerned about the welfare of the student. Problems at home and at school were discussed on the job. Most parents were supportive of their children's involvement in the program. There was a general feeling of "They are trying to improve themselves." Sometimes there was a lack of support at home; however, most parents exhibited great concern for their child. Many factors influenced each individual case. It was not possible to characterize a consistent pattern of concerns from one family to another.

- Improved Organization of Class. The rationales for vocational instruction included in the guides made it easier for teachers to organize class activities. They were better able to teach prerequisite skills for occuaptional competencies as a result of the guides.

- Increased Individualized Instruction in Vocational Education. The guides were organized around behavioral objectives and student competencies. In fact, one guide had sections that could be used directly in the development of students' IEPs. A profile of individual student needs could be developed and checked off as each subcompetency was accomplished.

- Reduced Teacher Preparation Time. The guides contained references to materials for handicapped learners. These references were available at the field sites, so it was easy to use activities suggested in the curriculum guides. The Employability Skills booklet contained teacher-made tests for use by students with various handicapping conditions.

- Improved Instruction. "Special education teachers would be completely lost about what to teach about vocational education (without the book)." This comment from a Support Services Team leader describes the importance of the curriculum guides.

- Greater Consistency in the Curriculum. The curriculum guides encouraged more uniform lesson planning. Resources selected for use in instruction tended to be similar across classrooms. Even with teacher attrition, the curriculum seemed to remain consistent from classroom to classroom and school to school.

- Improved Linkages for Communication. The guides promoted clear and direct communication between special education teachers and many other groups. For example, it was necessary for special education teachers to talk with vocational teachers to assess the quality of work performed by handicapped students in regular vocational classes.

- Increased Opportunities for Work-Study Placement. As a result of students being better prepared for the work place, coordinators were able to place them in more and different types of work-study situations. The businesses ranged from fast food establishments to farms; the occupations included truck drivers, dish washers, file clerks, custodians, and nursing home aides, among others.

Summary and Conclusions

This case study of teacher-developed curriculum guides in Maryland examined the use and effects of these guides in two counties, Carroll and Prince George's County. Across the two counties, 38 special education teachers and 1,350 handicapped learners have been using the guides. These guides were part of an $11 million federal investment in vocational education for handicapped learners during the past twelve years in Maryland.

The major effects of the guides have been better instruction for handicapped students with greater consistency of instruction across local school agencies. Greater communication between school officials and community agencies has led to increased placement of students in work-study positions. Teachers have been able to spend more time with individual students because their preparation time has been reduced by the well organized guides. Classes have been organized around the instructions in the guides. Students have been the greatest beneficiaries of the guides. Their self-esteem has improved, and they have become more employable as a result of the program.

Case Five: Michigan

Background

One of the earliest interdisciplinary research and development efforts funded by the Michigan Department of Education through the 1968 Vocational Education Amendment was the Vocational Education-Special Education Project. A grant of approximately $330,000 for the Vocational Education-Special Education Project I (Project I) was awarded for a three-year period from 1971 to 1974 to Central Michigan University. The project was directed by Le Roy Reynolds with the assistance of Ronald Lutz, Allen Phelps, and Cleo Johnson.

During the first year of the project a survey of the ten most prevalent occupations in Michigan was conducted to identify the occupational tasks needed in each of the ten skill areas. This survey served as the basis for ten occupational manuals to be used by vocational and special education teachers in secondary programs. These manuals are commonly referred to as the Cluster Guides since occupational tasks were grouped to develop each manual.

After the ten Cluster Guides were completed in 1974 they were distributed along with supplementary materials until 1978. At that time an eleventh guide was developed on consumer homemaking, which has been distributed with the original Cluster Guides to this date.

Following the development of the Cluster Guides a grant of approximately $252,917 was awarded to the Central Michigan group for Vocational Education-Special Education Project II (VESEP) (Project II) between 1974 and 1977. Project II consists of two vocational inventory instruments that identify learners' vocational interests and abilities. These materials are useful when placing learners into vocational programs.

At the same time, the Career Related Instruction modules were developed at the Capital Area Career Center in the Ingham County Intermediate School District in Michigan between 1974 and 1977. This project was funded for $383,111. The occupational tasks identified during the survey used in Project I were the basis for 1,802 instruction modules developed for thirty-four occupational subclusters. The modules are individualized, so that learners can work on them independently. The modules are about ten pages in length and contain illustrations and step-by-step directions.

During April 27 to May 1, 1981, two high schools and two junior high schools in the Macomb County Intermediate School District were visited. The schools visited in Macomb County were East Detroit High School, Lake Shore High School, Kennedy Junior High, and Rogers Junior High. Seven administrators, twenty-one teachers, twenty-five students, twelve parents, and three employers were interviewed in Macomb County to determine the use and effects of the VESEP resources.

Use of the Vocational Education Special Education Project Resources in Macomb County

Use of the Cluster Guides, at the time of our visit was quite limited. However, there was evidence that the guides had been used by special education teachers to gain background knowledge of occupational tasks for handicapped learners. Also, the Cluster Guides had provided some information for program development and inservice activities. At the time of our visit to Macomb County the Project II resources, the vocational inventories, and Career Related Instruction modules were used quite extensively. Of course, information obtained while developing the Cluster Guides served as the basis for the Vocational Education-Special Education resources that followed. The Career Related Instruction modules operationalized the occupational tasks identified during Project I. So, indirectly all of the Vocational Education-Special Education Project information was still in use in Michigan. Use of these materials are highlighted as follows:

- Across the four schools visited, vocational inventories had been used by five special education teachers during the 1980-81 school year.
- The vocational interest assessment instruments were used to identify the vocational interest and vocational ability levels of learning disabled, educably mentally impaired and emotionally impaired learners.
- Special education teachers at high schools in Macomb County used vocational inventories to determine ability levels of students so they could be properly placed into vocational programs.
- The Career Related Instruction modules had been used by about 130 handicapped students, four special education teachers, ten vocational education teachers, and three paraprofessionals across the four schools during the 1980-81 school year.
- The career modules were used most with educably mentally impaired learners and with students who had learning disabilities.
- The modules had been used extensively in one high school in a prevocational class taught by special education teachers. Handicapped learners were using the career modules to begin learning about a range of occupations and the skills necessary to prepare them for the various vocational programs.
- The modules were used on a limited basis in some of the vocational classes in the two high schools. Vocational programs that were actively using the modules were food service, nursing, auto mechanics and welding.

- Paraprofessionals were using the career modules with handicapped learners in some vocational classrooms. These paraprofessionals used the modules individually with learners in order to supplement the regular classroom instruction.

- On a more limited basis, the career modules were used to supplement regular vocational instruction. Special education teachers actually tutored or supervised learning when students were using the career modules.

Effects of the Vocational Education-Special Education Project Resources

A major focus of this case study was to investigate the effects of use of the resources for handicapped learners developed in Michigan. The effects could be presented most efficiently when organized by students, teachers, and programs as follows.

Effects on Students

- Junior High Learners saw the Relationships Between School and Jobs after using the Project II Resources. Before the Project II interest survey was conducted Many students were confused about the connection between school and later experiences on the job. The interest survey provided the linkage between school and work that many students were missing.

- Use of Career Modules and Enrollment in the Prevocational Classes enhanced Handicapped Learners' Chances of Placement in Work/Study Experiences during High School. Before the modules were used in the prevocational class, many students did not have the skills, habits and attitudes to hold a job. Now employers see that students can grasp the concepts with help from the school.

> The nursing program is good to us. We depend on them (because) it makes our job easier. They have the basic skills we need...students come here well-prepared. (Employer)

- Handicapped Learners were More Independent and Responsible. Teachers repeatedly described how learners' behavior were more independent and responsible due to their enrollment in the regular vocational classroom. The following comments were made by vocational, special education teachers, and parents about the changes in student behavior.

> I see that they are more confident about their school work. Also, they are more social. The students get along well...on the whole the kids work together. (Food service teacher)
>
> The students are more independent, yet, more willing to seek help from special education when they need it. Also, there's more success in vocational education now. (Special-vocational teacher consultant)

Effects on Program

- Using the Career Modules influenced Special and Vocational Education Programs to exchange Subject Matter and Teaching Methods. The special education program adapted their curriculum to include prevocational content by using the career modules. Although when the modules were used by vocational teachers, it was necessary to use an individualized approach traditionally used in special education classrooms.

- Specialized Assignments of Staff were made to provide Vocational Training for Handicapped Learners. Teachers with dual certification in special and vocational education had been hired to work with the vocational program for handicapped learners. These teachers were working as special-vocational teacher consultants, vocational evaluators, or as work/study coordinators.

- The Regular Vocational Classes for Handicapped Students were more Individualized as a result of using the Career Modules. Since teachers in special education and vocational classrooms were diversifying their teaching strategies and content, the program was less restricted. The individual differences in students' learning styles and social interaction were being recognized and dealt with by teachers.

- The Modules provided a Way to Evaluate Handicapped Learners' Performance in the Regular Vocational Classroom. The career modules provided a means to evaluate handicapped students fairly. Since the modules contained behavioral objectives that were broken into measurable parts, students' learning could be assessed.

- For Students with Handicaps too Severe for Mainstreaming, the modules provided a sound background in a vocational area. Even though a majority of the handicapped learners were mainstreamed into the regular vocational classroom, a few students were receiving vocational training in a self-contained classroom. In this case, the career modules were used as a basis for the curriculum.

Effects on Teachers

- Use of the Career Modules stimulated Vocational and Special Education Teachers to work together when educating Handicapped Learners. One special education teacher described the change that had occurred, "Vocational teachers are more receptive to our kids now. Knowing the kids will be using the modules is better for both special education and vocational teachers."

- Special Education Teachers became more aware of the Vocational Needs of Learners. Once special education teachers had used the modules, they began to think about the vocational needs of handicapped learners. Teacher consultants, vocational evaluators, and work/study coordinators were positive about what handicapped learners had learned explaining, "The ones that have jobs seem to do better than the ones that don't have them."

- Vocational Teachers were more aware of the Handicapping Conditions of Learners and ways to provide Instruction that would benefit Learners. One machine shop teacher explained, "We encourage the special education students to try to do the same activities with the help of paraprofessionals. That's what makes the project work. We're trying to keep it flexible--we don't want them isolated."

Summary and Conclusions

The Vocational Education-Special Education Project was certainly a pilot linkage program to provide vocational education for handicapped learners in Michigan. In the two senior high schools and two junior high schools in Macomb County, the Vocational Education-Special Education project resources were used extensively by over 200 students during 1980-1981.

The effects on students were: (1) improved chances of being placed in a work/study experience; (2) stronger background for jobs after graduation; and (3) independence and responsibility.

The effects on teachers were: (1) more cooperative working relationship and (2) greater awareness of teachers about the vocational needs of learners and the ways to provide instruction.

The effects on program were: (1) an exchange by teachers of content and teaching methods; (2) specialized assignments of staff; (3) more diverse and individualized classrooms, (4) fairer ways to evaluate learners' performance, and (5) vocational background for severly handicapped students.

Case Six: Illinois

Background

Improving vocational education for special needs students throughout the state of Illinois was a challenge met enthusiastically by Dr. Catherine Batsche at The Illinois Network. The Illinois State Board of Education, Department of Adult, Vocational, and Technical Education first funded the Illinois Network of Exemplary Occupational Education Programs for Handicapped and Disadvantaged Students in September 1975. The goal of the project was to improve the quality of vocational education for handicapped and disadvantaged learners.

One major activity of The Network, in order to disseminate programs and products, has been to conduct dissemination workshops througout the state. Fourteen materials dissemination workshops have been held in Illinois since November of 1979. At each of the workshops a number of resource materials were displayed, demonstrated, or disseminated. In addition, minigrant opportunities were introduced at most workshops. The minigrant was available from the state board of education to encourage adaptation of workshop materials. Minigrants provided incentive for curriculum change and professional development at local schools.

One resource selected in 1979 for dissemination through The Network was the Vocational Education-Special Education Project. These were the cluster guides, developed in Michigan, which were described in the previous case study (case five). The Cluster Guides were chosen for diffusion by The Network by project directors from nine demonostration sites across the state of Illinois. Selection of the Cluster Guides for dissemination occurred because of the quality and effectiveness of the resource. At a meeting of project directors, according to Dr. Batsche, several directors described the cluster guides as "the resource that helped the most, or the materials that "made the critical difference."

During the spring of 1981, The Network and two high schools in Illinois were visited to identify selection, distribution, and use of the Cluster Guides. In addition, this study focused on identifying the ways administrators and teachers at local school districts in Illinois had used and adapted the Cluster Guides for handicapped learners.

Three state and two local administrators, and fifteen vocational and special teachers were interviewed on May 20-22, 1981. Two small, rural high schools were visited, Canton High School and Lewistown High School.

Teachers were asked to respond to questions concerning amount of use, as well as manner of use, of the Cluster Guides. Of the thirteen teachers interviewed, only one teacher had never used the adapted guides. Six teachers had used the Cluster Guides as an organizational model for the year. The remaining six teachers had used the Cluster Guides much more extensively. Three teachers had pulled together sections of the guides to write a unit. Finally, three teachers had used the Cluster Guides on a day-to-day basis by breaking the guides down into daily lesson plans. The majority of teachers used the guides as an instructional basis for all the students in their vocational classes, not just handicapped students. Frequently, teachers had added concepts to the guides to meet the needs of the typical learner rather than the handicapped learner. Of course, about one-third of the vocational teachers had used the Cluster Guides as a resource for individualizing instruction for handicapped learners as they were intended to be used.

Adaptation of the Cluster Guides

Most teachers adapted the Cluster Guides on their own time and at their own pace. Only about one-third of the teachers worked on the Cluster Guides during a summer workshop. The amount of time required to revise the guides varied from only four hours to over twenty-four hours. The following discussion regards the adaptations made to the various Cluster Guides by many of the vocational teachers.

1. The majority of teachers added lessons that they had taught before the Cluster Guides were introduced into the program.

2. Frequently teachers added or eliminated behavioral objectives, instructional methods, and learning activities to match the skills of students in the classroom. Frequently teachers had designed new learning activities for students or added ones they had used in the past and found to be successful.

3. A few teachers had added evaluation devices in order to compare students' progress when using the Cluster Guides versus other types of curricula.

4. Most of the home economics teachers had emphasized the basic everyday living skills in the Cluster Guides and eliminated the concepts dealing with job training.

5. Vocational teachers who were actively placing their graduates into jobs following completion of the program, i.e. automotive, drafting, and machine shop programs, had revised the types of job opportunities to match those available in the community.

6. Most teachers had revised vocabulary lists to correspond with lessons taught in the Cluster Guides.

7. Increased teachers' skills for developing or improving curriculum.

Vocational directors at Lewistown and Canton were pleased with what vocational teachers could accomplish when adapting the Cluster Guides. One vocational director said, "The guides are well done. They're easy to adapt since teachers can take out a page here and add one there." One drafting teacher explained further, "The Cluster Guides helped out a lot. They were already on paper so I could modify them easily." Several teacers said that the Cluster Guides had been particularly helpful for new teachers and student teachers.

Summary and Conclusions

Vocational Education-Special Education Cluster Guides developed in Michigan were transported for use in Illinois. The major outcome of using and adapting the Cluster Guides was that higher quality vocational instruction was provided for sixty-seven handicapped students in Lewistown and Canton, Illinois. This was evident because of teachers' increased ability to organize, motivate, and individualize instruction for handicapped students.

This case study provides evidence that a research and development product can be successfully transferred across state lines. With only a modest amount of additional resources, this product not only had extended impact but also was creatively adapted.

Case Seven: Broward County, Florida

Background

Broward County, adjacent to Miami, offers vocational education through 26 middle schools, 20 high schools, 2 area vocational/technical centers, 7 adult centers, 15 community schools, and 9 special education centers. In Broward County, a total of 42,429 secondary students enrolled in vocational education in 1979. This represented 70 percent of all high school and 67 percent of all middle school students. A total of 41,161 adult vocational education students were enrolled during the same year.

The number of handicapped students being served by vocational education in this county during March 1981 was 3,271. This included 125 in the vocational/technical centers, 311 in the exceptional student centers, 1,360 in the 20 high schools, and 1,475 in middle schools. The number of handicapped students enrolled in vocational education in each high school ranged from 20 to 160 with a median number of 80. High school students were mainstreamed in regular vocational classes. The middle school students were mixed with regular students in most of their classes. A course in career exploration was taught for all students in the middle schools. The exceptional student center population, on the other hand, were all handicapped. The handicapped students at the vocational/technical centers were mainstreamed with other students, although they tended to be grouped into a few classes. Site visits were made to Deerfield Beach High School, Bright Horizons Exceptional Student Center, Atlantic Vocational Center, and Corral Springs Middle School.

Countywide service to handicapped youth began in 1976 with the establishment of a curriculum supervisor for disadvantaged and handicapped in vocational education. Since that date, three other positions have been established the county.

In 1977, a CETA grant for educating handicapped adults financed two programs with resource teachers and paraprofessionals as aides. A state-sponsored Florida Diagnostic Learning Resource Service (FDLRS) was used to pay for consultants and to reimburse teachers during a two-week workshop in July 1979.

Participants in this July workshop examined over 150 references prior to developing a countywide curriculum guide for handicapped students in Broward County. This curriculum guide was disseminated in 1980. The California-developed publication entitled Vocational Education: Teaching the Handicapped in Regular Classes was used extensively to develop this county guide. Concurrent with this workshop, the California-developed publication was being distributed nationwide by the Council for Exceptional Children.

Use of the Research-based Product

A cadre of eight teachers, selected consultants, and ten teacher trainees participated in this two-week workshop in July 1979. Sections of the California-developed resource book was used to develop the county guide on federal policy and program support, capabilities and characteristics of handicapped persons, and shaping the training environment. Additionally, information on positive attitudes for teachers was used during the workshop.

The trainees became familiar with characteristics of handicapped learners, laws affecting the learners, techniques in identifying and selecting materials, and modifications possible in laboratory equipment. The workshop guide included a section on laws affecting vocational education for the handicapped and curricula for the areas of agribusiness, business education, distributive education, diversified occupations, health occupations, home economics, and industrial education. Each of these curriculum areas contained a section on objectives as well as instructional materials and suggested equipment and tools for use with handicapped students. Copies of the guide were distributed to all vocational teacher of handicapped learners in the county.

Material from the CEC-distributed California publication was used in an additional three ways. Material from the book was used in a newsletter distributed to vocational teachers of handicapped youth. Secondly, leaders of countywide workshops used the publication as a study guide for participants. Thirdly, the book served as a reference for lessons in a course at Florida International University. The newsletter was published three times in 1981 by the county resource teacher for instructors of handicapped students. Each item was mailed to 350 guidance counselors, vocational instructors, special education teachers, and others interested in the vocational education of handicapped learners. The five countywide teacher inservice workshops drew a total of 120 persons in 1981. These workshops used the California resource book for dissemination of information on the following topics:

Vocational evaluation and assessment
Placement of special needs learners
Instructional strategies and techniques
Modifications of programs

Effects of Product Use

As the primary audience for this research-based resource book, teachers benefitted most from its use. They changed in a variety of ways. Teachers reported the following results:

- Developed More Favorable Attitudes toward Mainstreaming Handicapped Learners into Vocational Education. Teachers overcame the fear of having handicapped learners in class. They began to appreciate the problems of these special students and to understand the benefits of mainstreaming, as exemplified by one teacher's remark, "Because of mainstreaming, the labels are gone."

- Instead of shying away from Instruction with the Handicapped, Teachers actually asked for Students to be placed in their Classes. As one junior high school teacher said, "I found myself researching them (the students) rather than taking what I saw at face value."

- They acquired a Comprehensive Knowledge of how to teach Handicapped Learners. The California book was directly responsible for some of this learning. One teacher called it "a summation of my entire Master's program (in special education)."

- They increased Self-Awareness of their own Personal Attitudes. Personal growth as a result of attending the workshops and using reference materials was evident from conversations with the teachers. One put forth the following opinionated view of teaching and grading, "I hate tests; we shouldn't judge people; we should evaluate on effort. Students should have success within personal limitations."

- They improved understanding of individual Handicapping Conditions. Units in the book examined in-depth mental retardation, visual handicaps, and communication disorders. One teacher commented, "the two-week workshop was the best thing that happended to me to help me understand handicapped students."

- They increased use of Special Education Resources. As teachers learn about the needs of handicapped learners and the potential availability of services, they take matters into their own hands. Teachers tend to seek special education coordinators for advice whenever students appear to be having problems. As one teacher said, "I either take the initiative or let the student starve for knowledge."

The important impact of teacher behavior is improved student performance. As a result of the Broward County program, vocational students have changed in the following ways:

- Handicappped Students are less identifiable than in previous Years. Students participate in mainstreamed classes "just like everyone else." The labels are gone. Special vocational classes are strategically placed throughout the high school building so students cannot be identified. Most of the time, even the teachers do not know which students are handicapped.

- Student Work Placements are encouraged. The vocational programs frequently include placement in a cooperative work setting. As one teacher said, "I put them with an organization where they can learn something." Money earned on-the-job was a powerful motivational device. According to another teacher, employers usually are pleased with the students' work. The public is better informed now than they used to be.

The effect of the California-developed book on the Broward County program was difficult to assess because it was only one of many references used over time in the county. However, there can be little doubt it was influential. The county curriculum supervisor for disadvantaged and handicapped referred to it as "my bible." It was the information in this book that lead to growth and development of programs in the schools.

Summary and Conclusions

The California-developed resource book, Vocational Education: Teaching the Handicapped in Regular Classes, was used extensively in Broward County, Florida for instruction in county workshops for 120 vocational teachers of handicapped learners. Additionally, information was shared through a county newsletter and personal visits by county staff to local schools. The primary effects of this R and D product on vocational teachers were: (1) more favorable attitude toward mainstreaming, (2) more comprehensive knowledge of how to teach handicapped learners, (3) increased awareness of personal attitudes, (4) improved understanding of handicapped conditions, and (5) increased use of special education resources. The primary effects on students have been: (1) students are less identifiable than in previous years, (2) student work placements are encouraged, and (3) students are better prepared to perform productive work.

VI. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study describes the distribution, use, and effects of thirty research and development (R&D) products to improve vocational education for handicapped learners. Fifteen of these products were developed by the National Center for Research in Vocational Education, eleven products were developed outside of the National Center but distributed by the Dissemination and Utilization project and four products were developed through state research coordinating units. Also, seven workshops on vocational education for handicapped learners were studied. Topics of the R&D efforts included individualized education programs; least restrictive environment; job placement and adjustment; guidance and counseling; career and vocational development; policy development; attitudinal barriers; career-related instruction; employability skills; and daily living skills.

These R&D efforts were studied through (1) a mail survey returned from 321 respondents, (2) telephone interviews with 100 respondents, and (3) case studies of seven sites where these products had been used in an exemplary manner. Across the sites 284 personal interviews were conducted. The major questions addressed through the study were as follows:

1. How many individuals have benefited from R&D products related to vocational education for handicapped learners?
2. How were R&D products used to improve the quality of vocational education for handicapped learners?
3. What have been the effects of R&D products on vocational education programs for handicapped learners?
4. What has been the progress toward meeting critical goals for handicapped learners within vocational education?

Distribution

From January 1978 to July 1981, 33,320 copies of the twenty-six publications about handicapped learners from the National Center for Research in Vocational Education were distributed. Based on the 3 percent sample of the population of users, estimated secondary uses of these publications have involved an additional 85,635 college or university students, 123,717 secondary teachers, 19,932 administrators, and 3,300 university personnel during this period.

During this same period, 4 state developed publications selected from a pool of 268 publications on handicapped learners were distributed to 1,600 individuals. Based on the sample of users, estimated secondary uses of these 4 publications have involved 10,886 students, 4,226 teachers, 1,744 administrators, and 2,368 other personnel.

Use

The primary uses of the publications from the National Center were reported to be (1) in a workshop or college classroom (45 percent), (2) as a professional reference (36 percent), and (3) in a library or resource file (17 percent). Some examples of specific uses of National Center publications follow:

- A vocational special needs coordinator in Charlotte, North Carolina used ten different publications to implement a series of sixteen workshops for fifty-four vocational teachers in the spring of 1981. The workshops covered topics such as legislation related to handicapped persons, developing IEPs, developing lesson plans, and evaluating special needs resources.
- In Minnesota, special needs professionals in the department of education, at all thirty-three area vocational institutes, and at the University of Minnesota had used eighteen of the National Center's special needs resources.
- In Milwaukee, Wisconsin, 18 junior high schools used special needs resources to provide reality-based career exploration experiences for 560 handicapped learners.

The four state developed, research-based publications had been used by over 90 percent of the recipients. The primary use had been in secondary classrooms, and for teacher inservice. Some examples of specific uses of state developed publications follow:

- Across Prince George's and Carrol counties in Maryland, 38 special education teachers used curriculum guides to improve the everyday and employability skills of 1,350 handicapped learners.
- In 4 schools in Macomb County, Michigan, 17 teachers used research-based resources to provide career-related instruction to 200 handicapped learners in regular vocational classrooms.

- Some of the Michigan developed materials were adopted by the state of Illinois and used with sixty-seven handicapped learners in Lewistown and Canton.
- A state developed resource on teaching the handicapped in regular classrooms was used to instruct 140 vocational educators in Broward County, Florida.

Effects

These research and development efforts have contributed to some major effects on vocational education professionals, vocational education programs, and handicapped learners. It is important to emphasize that the approach taken in this study is descriptive, not experimental or comparative. The effects are based on direct observations and descriptions from program participants. Also, the study focuses primarily on the effects of R&D in the best cases. The effects in the schools studied are more pronounced and positive than might be found in all locations. The order of effects in the following list provides an approximate indication of their magnitude.

The effects on vocational education professionals were reported to be (1) strengthened commitment toward serving handicapped learners; (2) increased understanding of handicapping conditions; (3) improved ability to teach handicapped learners; (4) broadened awareness of current issues and trends in educating handicapped learners; and (5) more cooperative working relationships between vocational education and special education professionals.

The effects on vocational education programs were reported to be (1) increased participation of handicapped students in vocational education; (2) more relevant IEPs; (3) improved curricula for handicapped learners, especially competency-based and individualized instruction; (4) strengthened linkages between vocational education and special education; and (5) more specialized personnel to serve handicapped learners.

The effects on handicapped learners were reported to be (1) increased participation in work experiences while in school; (2) expanded reality-based awareness of career possibilities; (3) improved self-esteem; (4) improved employability skills; and (5) strengthened background for productive work after graduation.

Conclusions

The legislation on the handicapped paved the way for much of the research and development on vocational education for handicapped learners. The greatest benefit from this research and development has been attitude change. The findings from this study support the conclusion that vocational educators attitudes toward serving the handicapped have become more positive and that as a result more handicapped learners have been participating in vocational education.

It was found that research and development tended to be used most extensively when the users were committed to serving the handicapped and the programs were highly coordinated. Administrative support was the most critical ingredient for effective programs for handicapped learners, and consequent use of research and development products. The most useful National Center research products were reported to be basic introductory materials on educating individuals with handicapping conditions. The most useful state developed research products were found to be individualized competency-based modules on occupations.

There was some evidence of second generation effects from the initial investment in research. Several states had secured and adapted products from other states. The greatest use of the National Center's research on the handicapped was not from direct sales, but from second generation use in classrooms, workshops, and libraries. However, for both the states and the National Center, dissemination of the products needed improvement. Frequently, state developed research products have been used only within the school district where they were developed. Although National Center publications have been disseminated to all states, they are typically not disseminated in a systematic manner within each state.

Overall, the findings of this study support the conclusion that state and national research has had impact on vocational education programs for handicapped learners. However the greatest impact has been at the awareness and interest stage. Research on handicapped learners must be continued for significant and lasting improvements in the education and employment of handicapped learners to occur.

Recommendations

Based on the findings, the following changes in the policy and practices of vocational education for handicapped learners are recommended. These recommendations also have implications for needed areas of research and development (no priority intended):

1. Expand the vocational education delivery options available to handicapped learners.

2. Provide more support for competency-based vocational instruction for mainstreamed handicapped learners.

3. Increase the supply of support personnel and paraprofessionals to assist in instructing mainstreamed handicapped learners in vocational education.

4. Develop partial certification of handicapped learners for occupations.

5. Ensure that all vocational education teachers working with the handicapped receive related inservice.

6. Continue practical, viable IEPs for all handicapped learners.

7. Involve vocational teachers in developing IEPs.

8. Involve students in developing IEPs.

9. Provide some type of work experience for all handicapped learners while in school.

10. Increase local schools' emphasis on job placement for handicapped learners after leaving school.

11. Establish responsibility and resources for conducting follow-up studies of handicapped learners.

12. Provide more career counseling and career exploration for handicapped students, especially at the junior high level.

13. Expand the number of employers who will provide work sites for handicapped learners.

14. Develop state and local interagency agreements for the vocational education of handicapped learners.

15. Strengthen linkages between special and vocational teachers.

APPENDIX

A. Telephone Interview Schedule

B. Case study Interview Guides

C. Mail Survey

Telephone Interview Schedule

This is ____________________ from the National Center for Research in Vocational Education in Columbus, Ohio. I'm calling because I'm interested in learning about what you are doing for learners in vocational education who receive special education or related services. I'd also like to learn about the ways you have used resource materials and other services offered by the National Center for handicapped learners.

Your comments will be very helpful in assisting to improve the quality of National Center work in this area.

I would like to ask you a few brief questions now over the telephone. My questions will require only about twenty (20) minutes of your time.

(If no) - When may I call again? Date: ______________

Time: ______________

Before we continue, let me clarify the learners who are the focus of this study. My questions will be limited to handicapped learners or learners who are (1) learning disabled, (2) mentally impaired, (3) emotionally impaired, or (4) physically handicapped enrolled in vocational education classes.

1. What are your responsibilities in working with special education services for the handicapped? (What is your title?)

Role

____ a. Administrator
____ b. Teacher/Faculty/Trainer
____ c. Teacher Educator
____ d. Researcher
____ e. Counselor
____ f. Community Representative
____ g. Resource Specialist
____ h. Other ______________

Organization

____ a. State Department of Education
____ b. Local or Intermediate Education Organization
____ c. Secondary School
____ d. University or Four Year College
____ e. Postsecondary or Two Year College
____ f. Research and Development Organization
____ g. Community Organization
____ h. Other ______________

Substance

____ a. Vocational Education
____ b. Special Education
____ c. Vocational/Special Education
____ d. Other ______________

2. How long have you worked in this particular role?
Number of Years: ________

3. What kind of involvement with the National Center for Research in Vocational Education have you had during the past three years?

____ a. Obtained resource materials
____ b. Attended conference
____ c. Sponsored collaborative conference
____ d. Received consultation
____ e. Provided consultation
____ f. Other ________________

4. How have you used the resource/conference/consulation? How useful was it?

	Type of Use				Usefulness				
	Read/	Filed/	Work-/ shop	Class- room	Not at all				Extremely Useful
Resources			Number & Role		1	2	3	4	5
____ a. Another Step Forward									
____ b. Mainstreaming Handicapped Students into the Regular Classroom									
____ c. Characteristics of Handicapped Students									
____ d. A System of Management									
____ e. Evaluation and Placement									
____ f. Architectural Consideration for a Barrier Free Environment.									
____ g. Briefs									
____ h. Least Restrictive Alternative for Handicapped Students									
____ i. Development of Individualized Education Programs (IEPs) for the Handicapped in Vocational Education									
____ j. Guidance Needs of Special Populations									
____ k. Job Placement and Adjustment of the Handicapped: An Annotated Bibliography									

____ l. Individualized Education Programs (IEPs): A Handbook for Vocational Educators

____ m. Working on Working

____ n. Taking on Tomorrow

____ o. Guidance, Couseling, and Support Services for High School Students with Physical Disabilities

____ p. Vocational Education of Handicapped Students: A Guide for Policy Development

____ q. Vocational Education: Teaching the Handicapped in Regular Classrooms

____ r. Evaluating Resources for Handicapped Students

____ s. It Isn't Easy Being Special

____ t. I Like You When I Know You: Attitudinal Barriers to Responsive Vocational Education for Handicapped Students

____ u. Let's Work Together: Intervention Strategies for Learners with Special Needs

____ v. Let's Find the Special People: Identifying and Locating the Special Needs Learners

____ w. Here are Programs that Work: Selected Vocational Programs and Practices for Learners with Special Needs

____ y. Resources: Agencies and Organizations that Serve Special Need Learners

____ z. Let's Help Special Needs Learners: A Resource Guide for Vocational Education Teachers

____ aa. The Career and Vocational Development of Handicapped Learners: An Annotated Bibliography

____ bb. The Career and Vocational Development of Handicapped Learners

____ cc. Serving Handicapped Students in Vocational Education: A Guide for Counselors

Conferences

____ a. Traveling Seminar on Vocational Education for the Handicapped - 10/22-25/79

____ b. AVA Workshop on Handicapped Populations - 11/29-30/79

____ c. Workshop on Vocational Education for the Handicapped - 4/15-17/80

____ d. Workshop on Vocational Education for the Handicapped - 6/24-25/80

____ e. Study Tour on Vocational Education for the Handicapped and Disadvantaged Populations - 10/27-30/80

____ f. Workshop on Successful Programming for Handicapped Students - 12/3-4/80

____ g. Workshop on Successful Programming for Handicapped Students - 4/14-15/81

Consultation

5. Of all the resources/conferences/consultation you have discussed, which did you find to be most useful?

____

Now I'd like to find out how you used the resource/conference/consultation that was most useful.

6. Tell me in more detail how you have used this resource/conference/consultation?

What are you doing with it right now?

7. How did you share this resource/conference/consultation with others?

____ a. Has not shared
____ b. Discusses content
____ c. Discusses resources needed to use
____ d. Discusses ways to use the information on a day-to-day basis
____ e. Discusses current use of the information

8. How many people have you shared this resource/conference consultation with?

Role		Number
____	a. Administrator	____
____	b. Teacher/Faculty/Trainer	____
____	c. Teacher educator	____
____	d. Researcher	____
____	e. Counselor	____
____	f. Community representative	____
____	g. Resource specialist	____
____	h. Students	____
____	i. Other	____

Now I'd like to go beyond use and find out how you feel about any changes or effects of the resource/conference/ consultation?

9. How has using this resource/participating in the conference/receiving (giving) this consultation changed your feelings about serving handicapped learners in vocational education?

____ a. Feelings have not changed

____ b. Pays attention or becomes aware of handicapped learners

____ c. Responds to the educational needs of handicapped learners

____ d. Attaches a value to educating handicapped learners

10. How has using this resource/conference/consultation changed students?

11. Describe any other changes to (a) staff, (b) programs, (c) non-handicapped students, or (d) others which resulted from your involvement with the National Center.

I would like to know what you think about the issues in four important areas and also about any changes you would like to see made in the future.

12. a. Providing the least restrictive environment for handicapped learners.

b. Developing individualized education programs (IEPs) for handicapped learners.

c. Placing handicapped learners into jobs/Assisting handicapped learners gain skills to become self-sufficient.

d. Establishing linkages between vocational education, special education, and vocational rehabilitation.

Numbers of Students/Teachers

____
Name of School

Total school enrollment: ____________

____
Grades

Number of Students/Teachers	1981-82 (est.)
1. Handicapped students enrolled in vocational education classes (total)	______
2. By handicapping condition:	
a. Speech impaired	______
b. Educably mentally impaired	______
c. Learning disabled	______
d. Emotionally impaired	______
e. Orthopedically impaired	______
f. Deaf/Hard of hearing	______
g. Visually handicapped	______
h. Multiple handicapped	______
i. Other health impaired	______
3. Number of handicapped students completing a vocational program.	______
4. Number of handicapped students mainstreamed in a regular vocational classroom.	______
5. Number of vocational teachers.	______
6. Number of vocational teachers trained in special needs of handicapped learners.	______

Case Study
Interview Guides

1. Local Administrator
2. Teacher/Counselor
3. Student
4. Student (Graduate)
5. Parent
6. Employer
7. Faculty
8. State Administrator
9. Adaptions

Local Administrators

1. A. Perception of program goals
   B. Role of the program in complying with P.L. 94-142
   C. Reasons for choosing the program

2. A. Ways the school was educating handicapped students prior to 1975
   B. Changes which have occurred since 1975

3. A. Administrator's role in implementing the program
   B. Administrator's role in working with teachers using the program
   C. Ways the program fits with priorities of the total Special Education/Vocational Education program
   D. Ways the program fits with other curriculum/strategies for handicapped students in the Special Education/Vocational Education program

4. A. Perception of the strengths and weaknesses of the program
   B. Ways the program has been evaluated

5. Statistical student effects
   A. Number of handicapped enrolled in Vocational Education/School 1975 vs 1980
   B. Number of handicapped students with various handicapping conditions 1975 vs 1980
   C. Number of teachers trained in special needs 1975 vs 1980
   D. Number of handicapped students placed in jobs 1975 vs 1980
   E. Number of students completing program 1975 vs 1980
   F. Number of students in self-contained classrooms or regular classrooms 1975 vs 1980

6. A. Perception of teachers' role in using the program
   B. Number of teachers using
   C. Extent of teacher use
   D. History of use over time
   E. Teacher attitude toward the program

7. Effects of using the materials on students
   A. Attitude (self-sufficiency)
   B. Academic skills
   C. Coping/life skills
   D. Job performance
   E. Other behaviors

8. Support Services
   A. Linkages with other special education/community agencies
   B. Linkages between special education and vocational education with the school
   C. Linkage with parents
   D. Linkage with employers

9. Program/School Effects
    - A. Facilities
    - B. Funding
    - C. Staffing
    - D. Recruitment
    - E. Diagnosis
    - F. Instructional Process (Individualized instruction - IEPs)
    - G. Placement

10. A. Recommendations for future activities/changes in own program
    - B. Recommendations for new areas

Teacher/Counselor

1. In what way does the presence of handicapped students affect the way you teach?

2. How do other students feel about having handicapped students in class?

3. What special needs resources have you used?

4. How did you learn about these special needs resources?

5. How have you used each of these resources?

6. What are the strengths, weaknesses of each resource?

7. What adaptations have you made in the resource?

8. What do you do differently as a result of using these materials?

9. How has it affected your:

   a. knowledge
   b. access to other materials/resources
   c. teaching skills
   d. attitude
   e. role/responsibilities
   f. curriculum
   g. planning time
   h. supervision of students

10. Have you made any changes in the following as a result of using it?

    a. linkages to the community/other education agencies/ State Department
    b. placement of handicapped students in jobs
    c. career planning (IEPs) procedures
    d. classroom discipline

11. What contact do you have with others in the school:

    a. special needs (handicapped) coordinator?
    b. guidance counselors?

12. What recommendations do you have for changing the resource or using it with students?

Teacher/Counselor (con't)

13. Respond to these four issues in terms of your work:

    a. Providing the Least Restrictive Environment for handicapped learners.

    b. Developing IEP's for handicapped learners

    c. Establishing linkages between Vocational Education, Special Education, and Vocational Rehabilitation

    d. Placing handicapped learners into jobs/assisting learners to become self-sufficient

14. What other issues do you feel are critical to educating handicapped individuals at this time?

Student

1. What is a day at school like?
2. What do you do in your vocational classes?
3. What have you learned in your vocational classes?
4. How do you like vocational class?
5. What don't you like?
6. Where did you go to school before you came here?
7. Did you like your teachers there?
8. How is your vocational class different from the school you came from?
9. Did you learn more there or here?
10. When you came to this school did you want to be in vocational classes or did someone place you there.
11. Do you have a say in the classes you want to take in this school?
12. Did your parents help you, or the school decide what classes you should take here?
13. How many of you use the resource room (other special services)? How many other kids use the resource room? Tell me how you feel about using the resource room?
14. Do you have a job? Describe your job.
15. What have you learned in your vocational classes that help you in your job?
16. What kind of job would you like to have when you graduate from this school?
17. Did your vocational class help you decide on this job?
18. In your vocational classes have you learned how to ...
    A. act on the job?
    B. spend your money?
    C. pick out new clothes?
    D. pick out food at the grocery store?
19. How has taking vocational classes changed the way you ...
    A. talk with your parents?
    B. talk with other kids in school?
    C. talk with teachers?
20. What kinds of changes would you like to see in your vocational classes?

Student (Graduate)

1. What did you learn in your vocational classes that helped you in your job?

   A. Skills
   B. Attitude
   C. Knowledge

2. What did you learn that has helped you...

   A. Spend your money?
   B. Select a place to live?
   C. Pick out new clothes?
   D. Pick out food at the grocery store?

3. What did you learn that has helped you...

   A. Talk with your parents?
   B. Talk with other people at work?
   C. Talk with your employer/boss?

4. What problems have you had with working since graduating from school?

5. How did your vocational classes prepare you for these problems?

6. What should your vocational classes have done to help you with these problems?

7. How would you change these vocational classes to be more helpful?

Parent

1. How do you feel about the quality of instruction being offered ______________ at the ______________ school.

2. We are interested in the vocational program instruction. What changes in (attitude, knowledge, skills) have you noticed in ____________________ since he/she has been enrolled in vocational programs?

3. Are you familiar with the __________________ materials being used to instruct your child?

4. Do you know the vocational teacher?

Employer

1. How did you decide to hire ____________________?

2. Describe the placement/hiring procedure.

3. Tell me about any other community/education organizations or agencies which have been involved while __________________ has worked here?

4. How have these agencies been helpful?

5. What problems have you or __________________ experienced?

6. Tell me about the way ________________ performs on the job?

   A. Skills
   B. Attitude
   C. Knowledge

7. How have the vocational classes he/she has taken in school influenced work on this job?

8. In what ways do you think _______________ could or could not have performed without having taken vocational classes in school?

9. What were the strongest features of the vocational classes that have been most helpful?

10. What are a few of the problems with the vocational classes?

11. What changes would you like to see in vocational classes to help handicapped individuals on the job?

University Faculty

1. How many classes are you teaching which include content in the area of vocational-special education?

   How many classes are offered in the department?

   Number of classes: ________ of ________

2. How many students are enrolled in these classes?

   Number of students: ________

3. Describe how the funding has changed to prepare vocational educators in special education over the past 5 years?

4. How has teacher preparation changed over the past 5 years to help vocational educators serve handicapped learners?

5. How has the National Center influenced your work over the years?

   How did you become aware of the Center's work?

6. Describe your involvement (products, workshops, consultation) with the National Center.

7. How have you used the National Center's work in Special Needs at the University?

8. Who have you disseminated the National Center's resources to outside of the University? (Dates, Number of materials, Roles of Product Users, Organization)

9. What type of technical assistance and follow-up has been provided with these resources?

10. What kinds of changes in PROGRAM, CURRICULA, or TEACHING, have you seen when schools have used the National Center's resources?

11. What recommendations do you have for changing the National Center's products or workshops?

12. Issues -
    How has your work helped to change these areas and how has the National Center been involved?

    a. Providing the Least Restrictive Environment for handicapped learners.
    b. Developing IEP;s for handicapped learners
    c. Establishing linkages between Vocational Education and Special Education
    d. Placing handicapped learners into jobs/assisting learners to become self-sufficient.

State Administrator

1. How many secondary/postsecondary schools have vocational programs for handicapped learners during this school year?

   Number of schools: ___________

2. How many handicapped learners are receiving vocational education?

   Number of students: ___________

3. What is the current funding level for vocational/special education programs in the state?

   How has funding changed over the past 5 years?

4. Describe the state policy for serving handicapped learners in vocational education, or complying with P.L. 94-142?

5. How has the National Center influenced your work over the years?

6. Describe your involvement (products, workshops, consultation) with the National Center.

7. How have you used the National Center's work in Special Needs at the State level?

8. Who have you disseminated the National Center's resources to outside of the State Dept? (Dates, Numbers of materials, roles of product users, organizations...)

9. What type of technical assistance and follow-up has been provided with these resources?

10. What kinds of changes in program, curricula, or teaching have you seen when schools have used the National Center's resources?

11. What recommendations do you have for changes in National Center products or workshops?

12. Issues
    How has your work helped to change these areas and how has the National Center been involved?

    a. Providing the least restrictive environment for handicapped learners.
    b. Developing IEP's for handicapped learners.
    c. Establishing linkages between voc ed and special ed.
    d. Placing handicapped learners into jobs/assisting learners to become self-sufficient.

Adaptations

1. What adaptations to the materials have been made on site this year?
    - A. Substance
    - B. Format
2. Who has worked on these changes?
3. How do you know the changes are appropriate?
    - A. Evaluation
    - B. Field Tests
4. What adaptations have been made due to local conditions, e.g. references not being available, job market, etc.
5. What resources have been used in these adaptations?
6. Who will benefit from these adaptations?
    - A. People at the local site only?
    - B. Will the product be distributed to other schools? districts?
    - C. What is the primary target audience for this revisee product?
        - age groups
        - type of handicap
7. Describe implementation of the adaptations. What factor affected the success or failure of these implementation strategies?
8. What characteristics of teachers as project directors contributed to the success or failure of adapting resources?
9. What suggestions do you have for improving adaptation of resources?

Form Approved

FEDAC No. R 127

App. Exp. 12/82

Research Study No.

RESEARCH AND DEVELOPMENT PRODUCT USE

The National Center for Research in Vocational Education is conducting a study to determine the use of vocational education research, exemplary, and curriculum products. Enclosed is an abstract of a product which was sent to you within the last eighteen months. Please complete the questions about the product by either circling the appropriate response or by filling in the blank space provided. Participation in this survey is, of course, voluntary.

1. **Have you received this product?** 8
   1. Yes
   2. No ——→ Please go to Question 13

2. **How did you receive this product?** 9
   1. Through the mail
   2. At a conference or meeting
   3. From my supervisor
   4. From a friend/colleague
   5. Ordered from an announcement
   6. Other (specify) ______________________________

3. **Please identify the person, by role and organization responsible for sending (giving) you this product.** 10 - 13

Role ______________________ Organization ______________________

4. **What is your primary professional role?** 14 - 15
   1. Administrator/supervisor
   2. Teacher/faculty member
   3. Teacher educator
   4. Curriculum specialist/resource specialist/librarian
   5. Researcher/evaluator/planner
   6. Guidance counselor
   7. Board or advisory council member/legislator
   8. Business/industry/labor personnel
   9. Parent
   10. Student
   11. Other (specify) ______________________________

This study is being conducted by the National Center for Research in Vocational Education pursuant to a contract with the Bureau of Occupational and Adult Education, U.S. Department of Health, Education, and Welfare as authorized by Public Law 94-482.

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
1960 KENNY ROAD · COLUMBUS, OHIO 43210

5. **Have you requested additional copies of this product?** 16

1. Yes ——→ How many? __________ 17 - 19

2. No

6. **To what extent do you believe this product has helped users do the following?**

	Not Applicable	Not at All	To Some Extent	To a Great Extent	
a. Help handicapped learners become more **self-sufficient**	1	2	3	4	20
b. **Overcome biases** against handicapped learners	1	2	3	4	21
c. **Modify/adapt** materials, equipment, or facilities for handicapped learners	1	2	3	4	22
d. **Assess** handicapped learners	1	2	3	4	23
e. Develop **IEPs** (Individualized Education Programs) for handicapped learners	1	2	3	4	24
f. **Communicate** with handicapped learners	1	2	3	4	25
g. Provide a **model** for special education program development	1	2	3	4	26
h. Identify **resources** for handicapped learners	1	2	3	4	27
i. Reduce **dropout** of handicapped learners	1	2	3	4	28
j. Help handicapped learners develop **employbility skills**	1	2	3	4	29
k. Improve **inservice** of teachers	1	2	3	4	30
l. Establish **communication channels** with other educational organizations	1	2	3	4	31
m. **Mainstream** handicapped learners	1	2	3	4	32
n. **Access special services** such as guidance and counseling.	1	2	3	4	33
o. **Place** more handicapped learners **on the job**	1	2	3	4	34
p. Make the classroom/lab **safer** for handicapped learners	1	2	3	4	35
q. Use **time** more **efficiently**	1	2	3	4	36
r. **Monitor** the progress of handicapped learners	1	2	3	4	37
s. Deal more **positively** with **discipline** problems	1	2	3	4	38
t. Establish **linkages** with community-based organizations	1	2	3	4	39
u. Understand the **legislation** (P.L. 94-482, P.L. 94-142) affecting handicapped persons	1	2	3	4	40
v. Provide a **least restrictive environment** for handicapped learners	1	2	3	4	41
w. Improve handicapped learners' **self-esteem**	1	2	3	4	42
x. Evaluate **program** effectiveness	1	2	3	4	43
y. Promote **peer acceptance** of handicapped learners	1	2	3	4	44

7. Have you used this product in each of the following ways?

	Not Appropriate	Yes	No, but I plan to	No	
a. Read or studied it	1	2	3	4	45
b. Referred to it or quoted from it	1	2	3	4	46
c. Shared the product with other professionals	1	2	3	4	47
If YES, how many? ____________					48 - 50
d. Filed it for use by my organization	1	2	3	4	51
e. Implemented it as part of my program	1	2	3	4	52
f. Adapted it to my specific needs	1	2	3	4	53

8. Have you used this product with the following people?	Yes	No	**9. If yes, how many people used this product between 1/1/79 and 12/31/80?**	
Students	1	2	____________	54 55-57
Teachers	1	2	____________	58 59-61
Administrators/ Counselors	1	2	____________	62 63-65
Parents	1	2	____________	66 67-69
Community Resource Personnel	1	2	____________	70 71-73
Others	1	2	____________	74 75-77

If you have not used this product in any way, please go to Question 14

10. In your opinion, to what extent does the product fulfill the following criteria? Card II

Does the product:	Don't Know	Not at All	To Some Extent	To a Great Extent	
a. Contain all of the necessary details for understanding the subject	1	2	3	4	8
b. Include satisfactory procedures and guidelines for use	1	2	3	4	9
c. Contain clearly stated objectives	1	2	3	4	10
d. Represent the best available source of information in this area	1	2	3	4	11
e. Fulfill its purpose(s) within acceptable cost limits	1	2	3	4	12
f. Contain ideas likely to be endorsed by persons you respect	1	2	3	4	13
g. Stimulate users to action	1	2	3	4	14
h. Contain the most recent information generally accepted by experts in the field	1	2	3	4	15
i. Contribute to your knowledge and skills	1	2	3	4	16
j. Help you perform your work	1	2	3	4	17

11. How does this product compare to similar products you have reviewed or used in terms of the following criteria?

If you have no basis for comparison, i.e., have never used a similar product, go to question 12.

	Don't Know	Much Worse	Worse	About the Same	Better	Much Better	
a. Reasonable cost	1	2	3	4	5	6	18
b. Appropriate length	1	2	3	4	5	6	19
c. Readability	1	2	3	4	5	6	20
d. Scholarly content	1	2	3	4	5	6	21
e. Relevance to your needs	1	2	3	4	5	6	22
f. Timely/up-to-date	1	2	3	4	5	6	23
g. Coverage of subject matter	1	2	3	4	5	6	24
h. Overall quality	1	2	3	4	5	6	25

12. Are you currently using this product? 26

1. Yes
2. No

13. Would you use this product again? 27

1. Yes
2. Undecided

Go to question 15.

3. No

If you circle NO on either 12 or 13, then complete question 14.

14. What is the major reason you are not using this product? (Circle only one.) 28

1. Irrelevant to my interests
2. Not applicable to my work setting
3. Too expensive
4. Too complex
5. Have not had time
6. Have completed my use of it
7. Other (specify) ____________________

15. How many years have you worked in the field of vocational education? 29 - 30

__________ years

Thank you for completing this questionnaire. Your answers will help determine the distribution and use of research, exemplary, and curriculum products. Please return the questionnaire promptly using the business reply envelope provided.

REFERENCES

Braddock, David. "Dollars and Sense in Special Education," 1976. ED 136544

David, Henry. The Vocational Education Study: The Final Report. Washington, DC: National Institute of Education, September, 1981.

Federal Register, 4 May, 1977.

Gill, Doug and Scott, Paul. "A Practical Model for Mainstreaming Handicapped Learners in Vocational Education," The Journal for Vocational Education Special Needs Education, 1, No. 3, (1979), pp. 3-7.

Halloran, William D. "Handicapped Persons: Who are They?" American Vocational Journal, January 1978, pp. 24-26.

Halloran, William D., et al. Vocational Education for the Handicapped: Resource Guide to Federal Regulations. Austin, Texas: Texas Regional Resource Center, 1978.

Higgins, Scottie. "Legal and Programmatic Aspects of the Least Restrictive Environment." Journal of Research and Development in Education, 13, No. 4, (1980).

National Association of State Boards of Education. Vocational Education of Handicapped Youth: State-of-the-Art. Washington, DC: National Association of State Boards of Education, 1979.

National Center for Educational Statistics. Condition of Vocational Education in 1979. Washington, DC: National Center for Educational Statistics, 1979.

Rossmiller, Richard et al. "Educational Programs for Exceptional Children: Resource Configurations and Costs." 1971. ED 052516

Vreeburg, Margaretha. "The Reauthorization of the Vocational Education Act of 1963: Implications for Special Need Populations." Office of Special Education and Rehabilitation Services, September 1980 (unpublished paper)

U.S. Bureau of the Census. Statistical Abstracts of the United States: 1976. 97th Edition. Washington, DC, 1976.

United States Office of Education. Status of Vocational Education in 1978. Washington, DC: United States Office of Education, 1978.